

Access DB# 154003

## SEARCH REQUEST FORM

Scientific and Technical Information Center

Requester's Full Name: DAWN GARRETT Examiner #: 76107 Date: 5/17/2005  
Art Unit: 1774 Phone Number: 2-1523 Serial Number: 10/801,288  
Mail Box and Bldg/Room Location: Remsen 10C79 Results Format Preferred (circle) PAPER DISK E-MAIL

If more than one search is submitted, please prioritize searches in order of need.

\*\*\*\*\*

Please provide a detailed statement of the search topic, and describe as specifically as possible the subject matter to be searched. Include the elected species or structures, keywords, synonyms, acronyms, and registry numbers, and combine with the concept or utility of the invention. Define any terms that may have a special meaning. Give examples or relevant citations, authors, etc, if known. Please attach a copy of the cover sheet, pertinent claims, and abstract.

Title of Invention: Organic Electroluminescent DevicesInventors (please provide full names): Margaret Hellner, Tukaram Haturan,  
Hans Schmittknecht, Peter Bessey, Manjun RajeswaranEarliest Priority Filing Date: 3/16/2004

\*For Sequence Searches Only\* Please include all pertinent information (parent, child, divisional, or issued patent numbers) along with the appropriate serial number.

Please search the rubrene derivative  
described in claim 1

SCIENTIFIC REFERENCE BR  
Sci & Tech Inf. Ctr.

MAY 20 RECD

Pat. &amp; T.M. Office

## STAFF USE ONLY

Searcher: EL

Searcher Phone #: \_\_\_\_\_

Searcher Location: \_\_\_\_\_

Date Searcher Picked Up: \_\_\_\_\_

Date Completed: 5-27-05

Searcher Prep &amp; Review Time: \_\_\_\_\_

Clerical Prep Time: \_\_\_\_\_

Online Time: \_\_\_\_\_

## Type of Search

NA Sequence (#) \_\_\_\_\_

AA Sequence (#) \_\_\_\_\_

Structure (#) \_\_\_\_\_

Bibliographic \_\_\_\_\_

Litigation \_\_\_\_\_

Fulltext \_\_\_\_\_

Patent Family \_\_\_\_\_

Other \_\_\_\_\_

## Vendors and cost where applicable

STN \_\_\_\_\_

Dialog \_\_\_\_\_

Questel/Orbit \_\_\_\_\_

Dr.Link \_\_\_\_\_

Lexis/Nexis \_\_\_\_\_

Sequence Systems \_\_\_\_\_

WWW/Internet \_\_\_\_\_

Other (specify) \_\_\_\_\_

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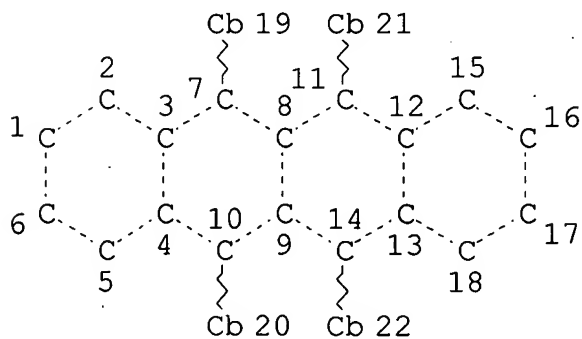
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STEREO ATTRIBUTES: NONE  
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36 ANSWERS

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L5 ANSWER 1 OF 6 ZCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2005:394612 ZCAPLUS  
DN 142:438400  
ED Entered STN: 09 May 2005  
TI Organic element for electroluminescent devices using rubrene  
derivative  
IN Begley, William J.; Hatwar, Tukaram K.; Rajeswaran, Manju; Giesen,  
David J.; Andrievsky, Natasha  
PA Eastman Kodak Company, USA  
SO U.S. Pat. Appl. Publ., 26 pp.  
CODEN: USXXCO  
DT Patent  
LA English  
IC ICM H05B033-14  
INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000  
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
Properties)

FAN.CNT 1

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005047420

A1

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WO 2004-US35087

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PRAI US 2003-701241

A

20031104

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
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	INCL	428690000; 428917000; 313504000; 313506000; 313112000; 257098000
US 2005095453	NCL	428/690.000; 428/917.000; 313/504.000; 313/506.000; 313/112.000; 257/098.000

AB Disclosed is an OLED device comprising a light-emitting layer (LEL) contg. a host and a dopant located between a cathode and an anode wherein the emitter is an orange-red light emitting rubrene deriv. (I): wherein: (a) there are identical oxy, aza or thio groups at the 2- and 8-positions; (b) the Ph rings in the 5- and 11-positions contain only para-substituents identical to the oxy, aza or thio groups in paragraph (a); (c) the Ph rings in the 6- and 12-positions are substituted; and provided that when a single substituent on both Ph rings in paragraph (c) are present, said substituent is not a methoxy group located at the para-position.

ST electroluminescent device rubrene

IT Electroluminescent devices

(org. element for electroluminescent devices using rubrene deriv.)

IT 118769-17-8 850755-33-8 850755-34-9 850755-36-1

850755-40-7 850755-41-8 850755-42-9

850755-43-0 850755-44-1 850755-45-2

850755-46-3 850755-47-4 850755-48-5

850755-49-6 850755-50-9 850755-51-0

(org. element for electroluminescent devices using rubrene deriv.)

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(org. element for electroluminescent devices using rubrene deriv.)

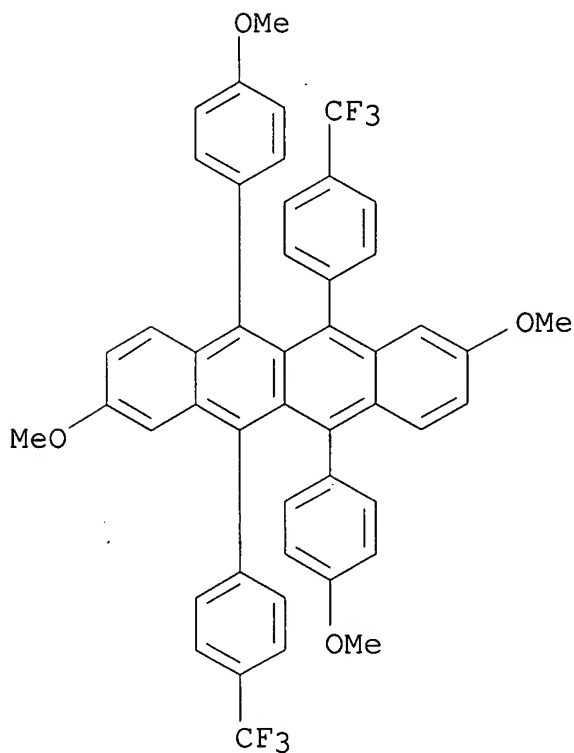
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(org. element for electroluminescent devices using rubrene deriv.)

IT 850755-31-6P  
(org. element for electroluminescent devices using rubrene deriv.)

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(org. element for electroluminescent devices using rubrene deriv.)

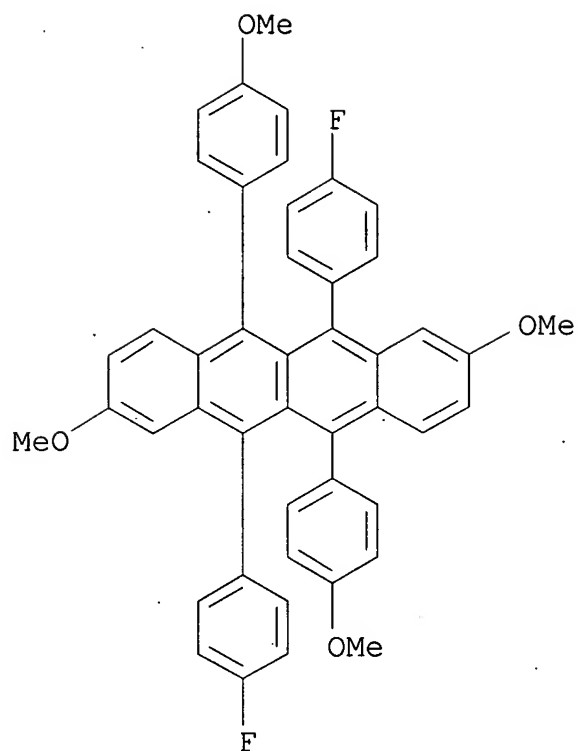
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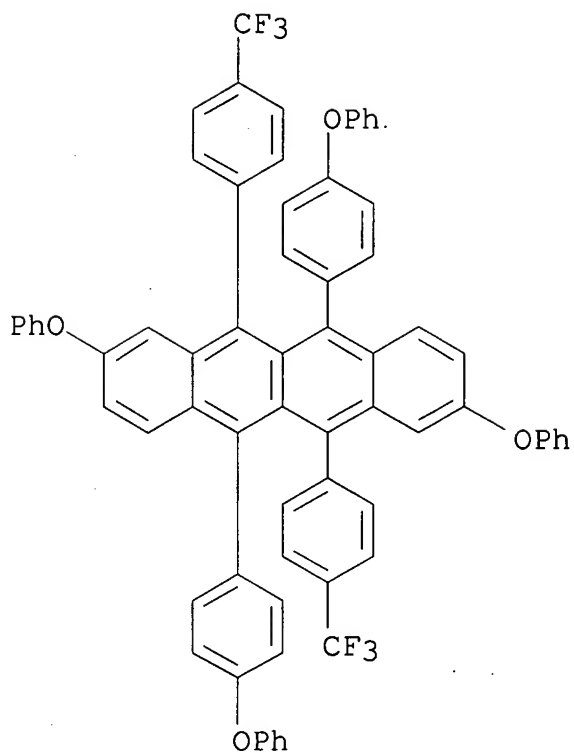
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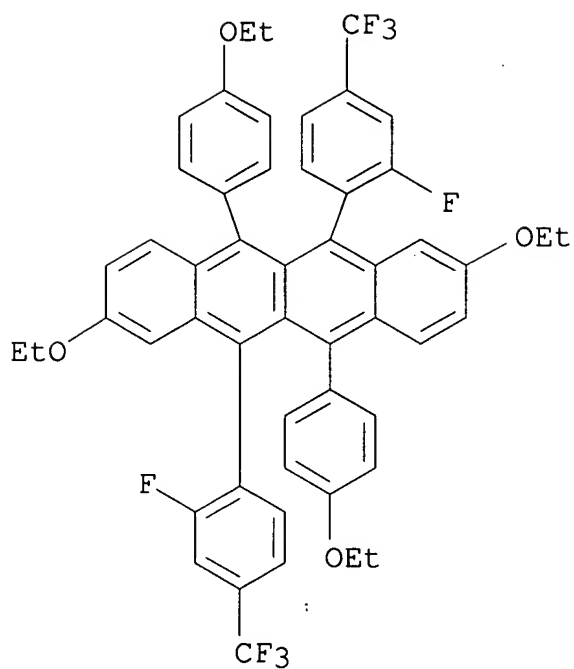
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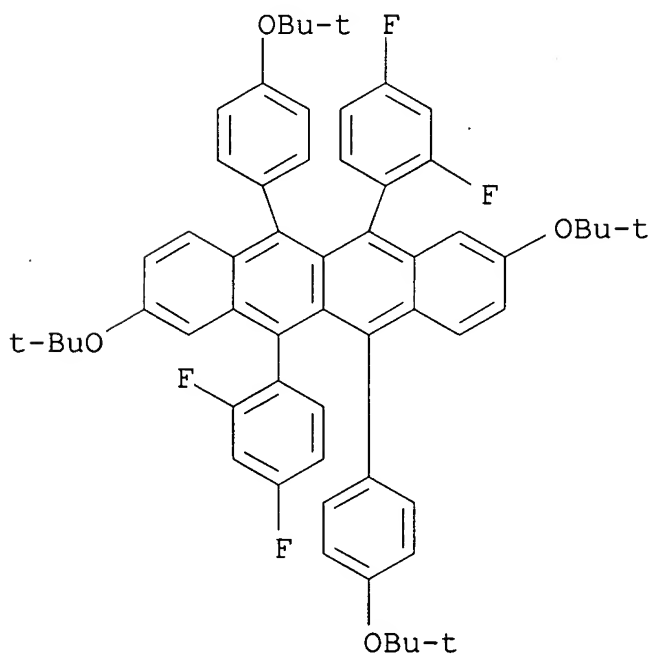
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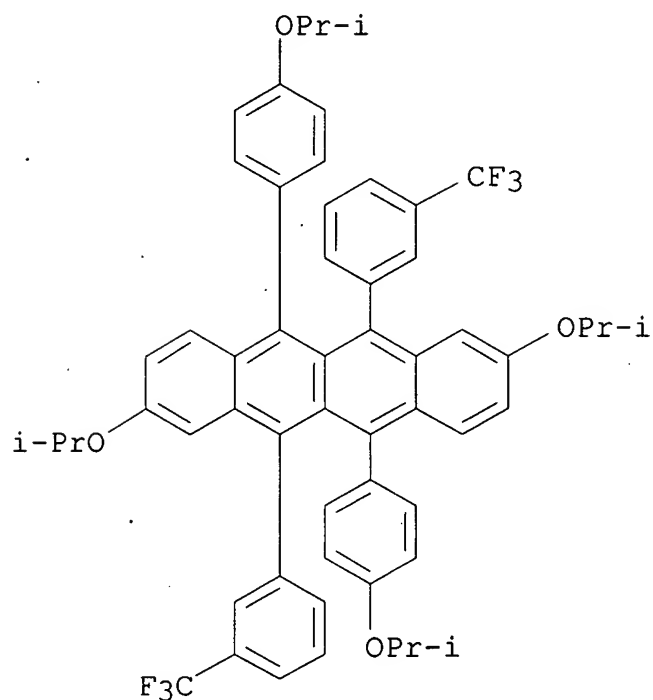
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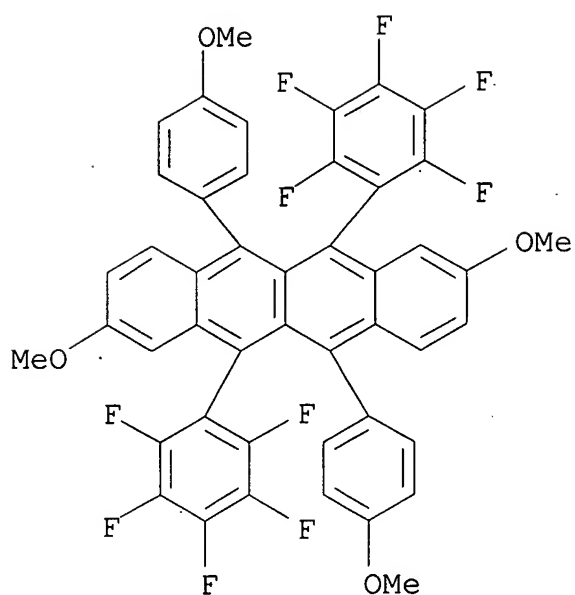
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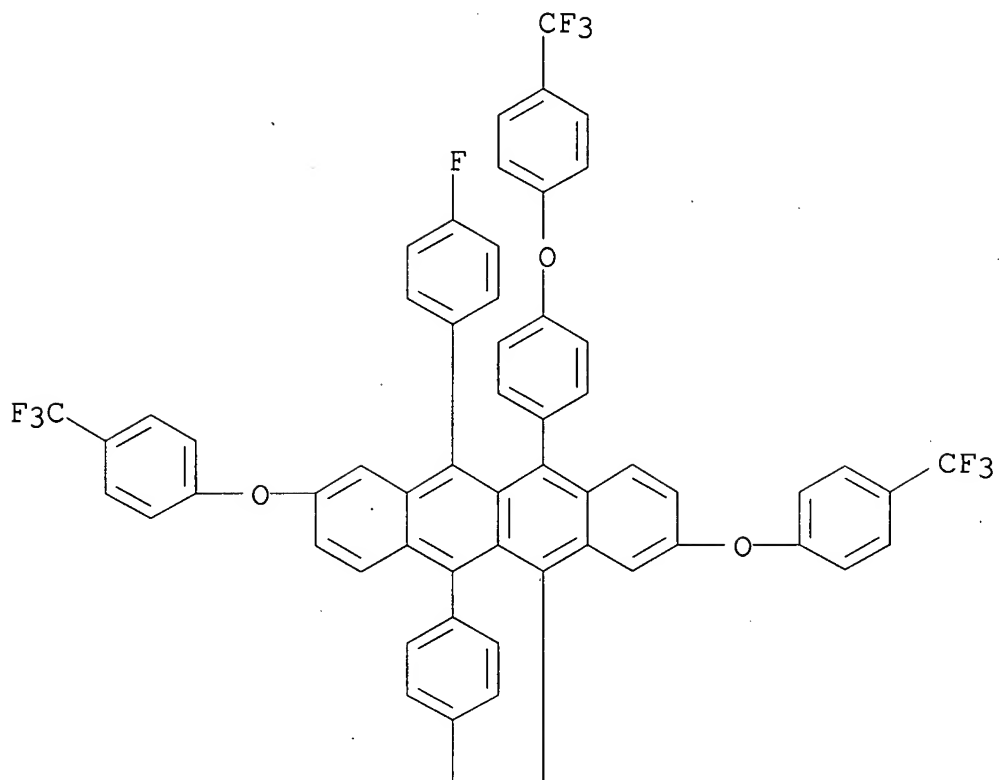
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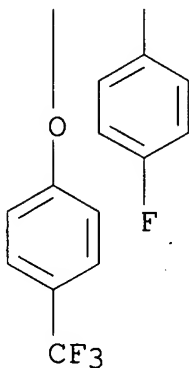
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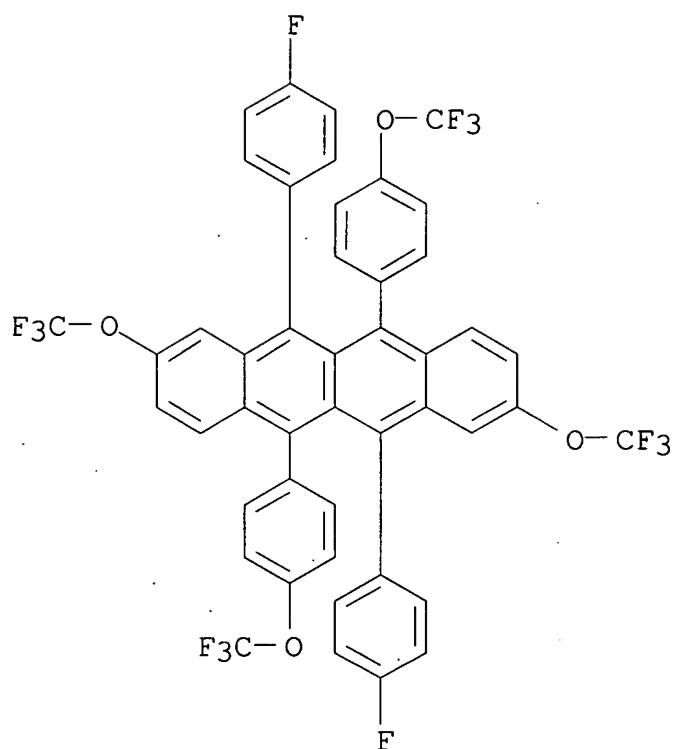


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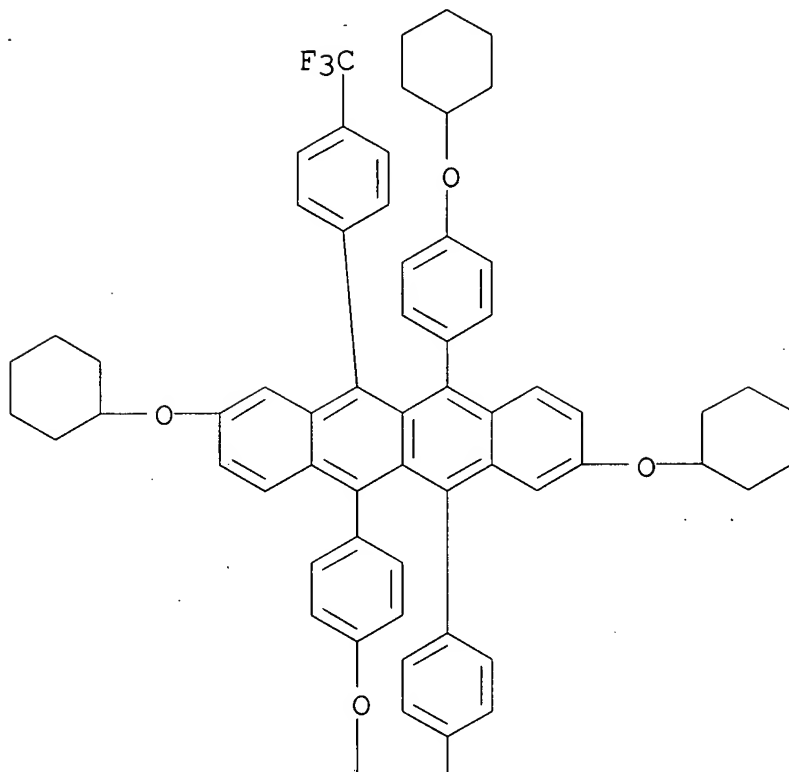
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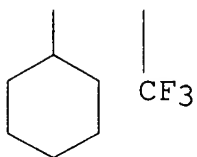
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(CA INDEX NAME)

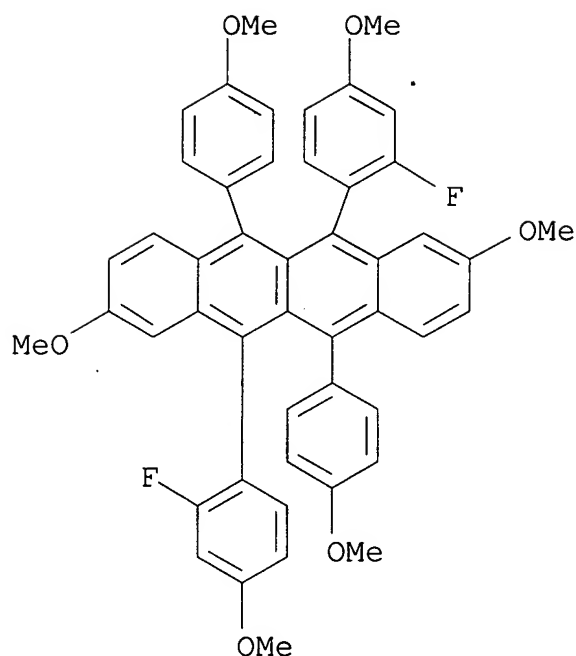
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PAGE 2-A



RN 850755-49-6 ZCAPLUS  
CN Naphthacene, 6,12-bis(2-fluoro-4-methoxyphenyl)-2,8-dimethoxy-5,11-bis(4-methoxyphenyl)- (9CI) (CA INDEX NAME)



L5 ANSWER 2 OF 6 ZCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2005:394611 ZCAPLUS  
 DN 142:438399  
 ED Entered STN: 09 May 2005  
 TI Organic element for electroluminescent devices using rubrene derivative  
 IN Begley, William J.; Hatwar, Tukaram K.; Rajeswaran, Manju; Giesen, David J.; Andrievsky, Natasha  
 PA Eastman Kodak Company, USA  
 SO U.S. Pat. Appl. Publ., 25 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM H05B033-14  
 INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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200410  
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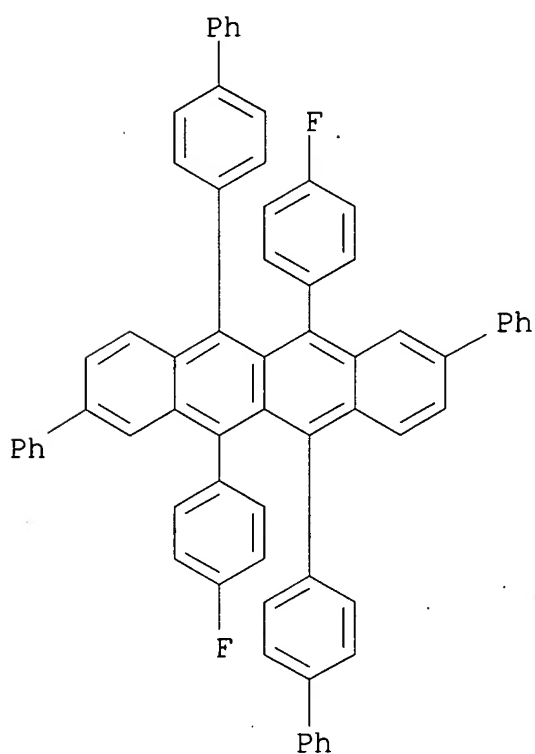
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 MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD,  
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 PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ,  
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PRAI US 2003-701040 A 20031104

## CLASS

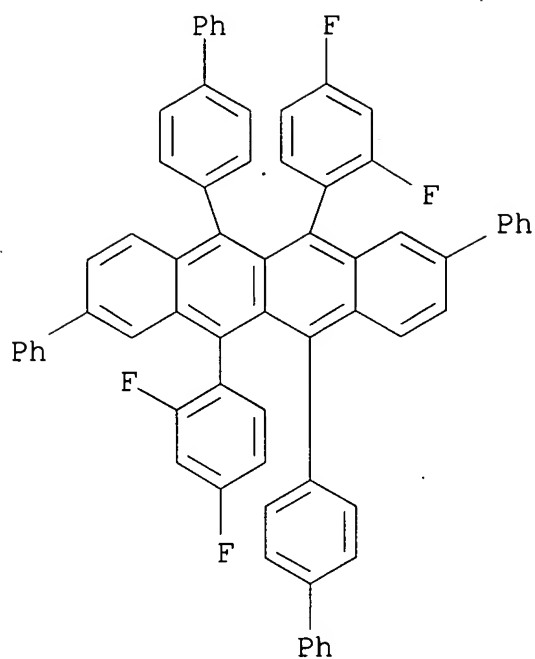
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US 2005095452	ICM	H05B033-14
	INCL	428690000; 428917000; 313504000; 313506000; 313112000; 257098000
US 2005095452	NCL	428/690.000; 428/917.000; 313/504.000; 313/506.000; 313/112.000; 257/098.000
AB	Disclosed is an OLED device comprising a light-emitting layer (LEL) contg. a host and a dopant located between a cathode and an anode wherein the emitter is an orange-red light emitting rubrene deriv. (I): wherein: (a) there are identical arom. groups at the 2- and 8-positions; (b) the Ph rings in the 5- and 11-positions contain only para-substituents identical to the arom. groups in paragraph (a); and (c) the Ph rings in the 6- and 12-positions are substituted or not.	
ST	electroluminescent device rubrene	
IT	Electroluminescent devices (org. element for electroluminescent devices using rubrene deriv.)	
IT	<b>850765-59-2 850765-60-5 850765-61-6</b> (org. element for electroluminescent devices using rubrene deriv.)	
IT	<b>850765-58-1P</b> (org. element for electroluminescent devices using rubrene deriv.)	
IT	850765-62-7 850765-63-8 850765-64-9 850765-65-0 850765-67-2 <b>850765-68-3 850765-69-4 850765-70-7</b> 850765-71-8 850765-72-9 <b>850765-73-0 850765-74-1</b> (org. element for electroluminescent devices using rubrene deriv.)	
IT	705-31-7 3478-90-8 (org. element for electroluminescent devices using rubrene	

deriv.)  
IT 850765-57-0P  
(org. element for electroluminescent devices using rubrene  
deriv.)  
IT **850765-59-2 850765-60-5 850765-61-6**  
(org. element for electroluminescent devices using rubrene  
deriv.)  
RN 850765-59-2 ZCAPLUS  
CN Naphthacene, 5,11-bis[1,1'-biphenyl]-4-yl-6,12-bis(4-fluorophenyl)-  
2,8-diphenyl- (9CI) (CA INDEX NAME)



RN 850765-60-5 ZCAPLUS  
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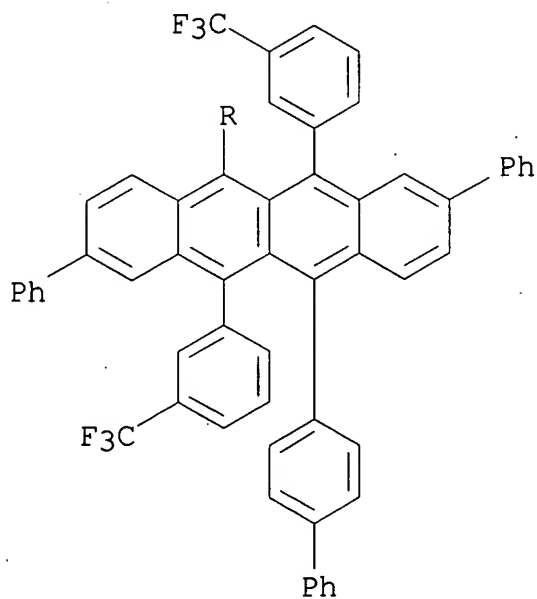




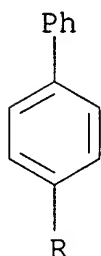
RN 850765-61-6 ZCAPLUS

CN Naphthacene, 5,11-bis[1,1'-biphenyl]-4-yl-2,8-diphenyl-6,12-bis[3-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

PAGE 1-A



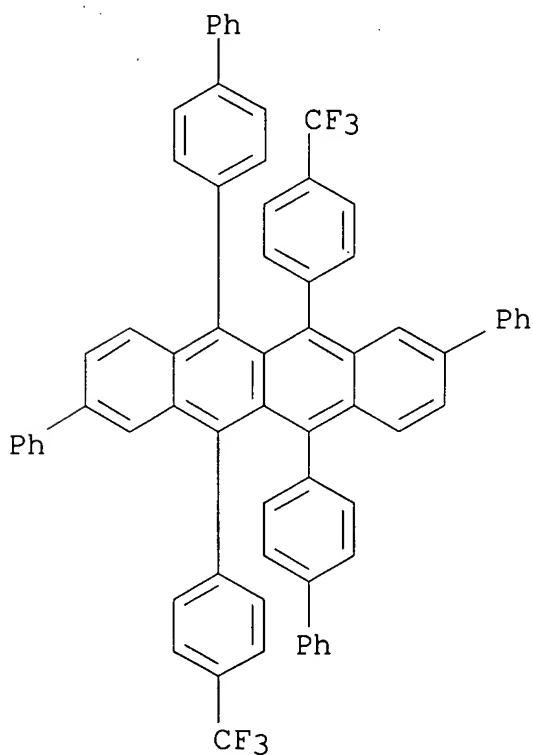
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IT **850765-58-1P**

(org. element for electroluminescent devices using rubrene deriv.)

RN 850765-58-1 ZCAPLUS

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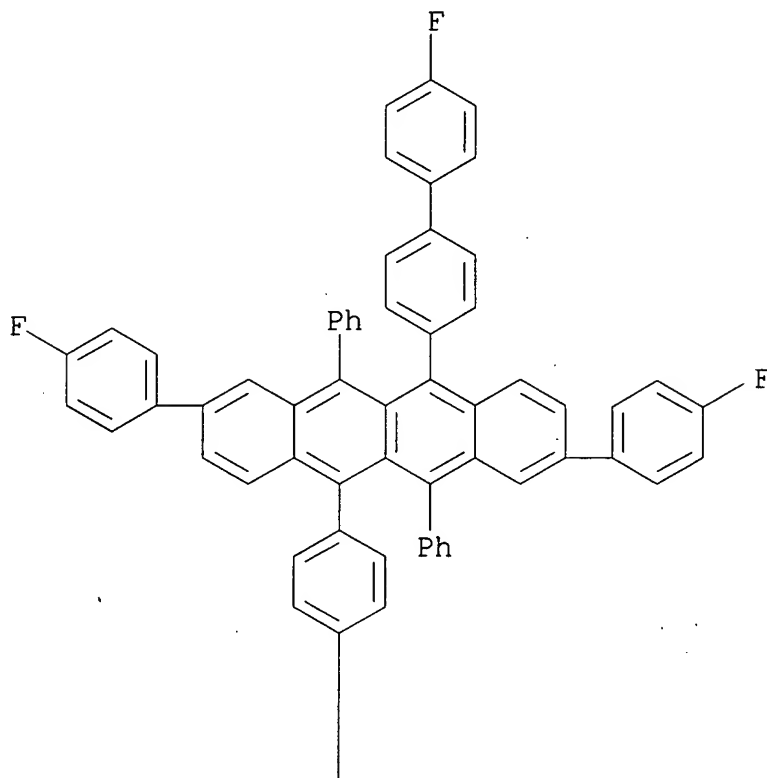
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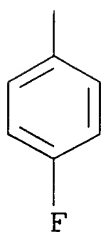
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PAGE 1-A



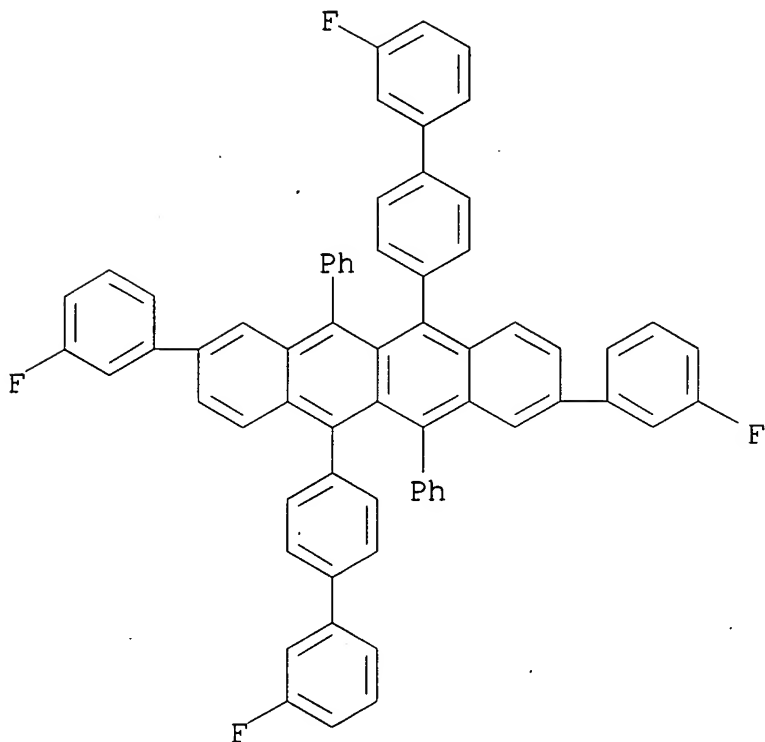
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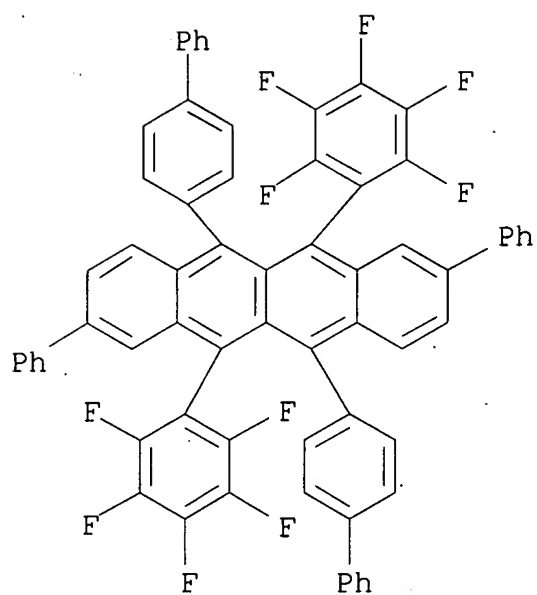
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fluorophenyl)-6,12-diphenyl- (9CI) (CA INDEX NAME)



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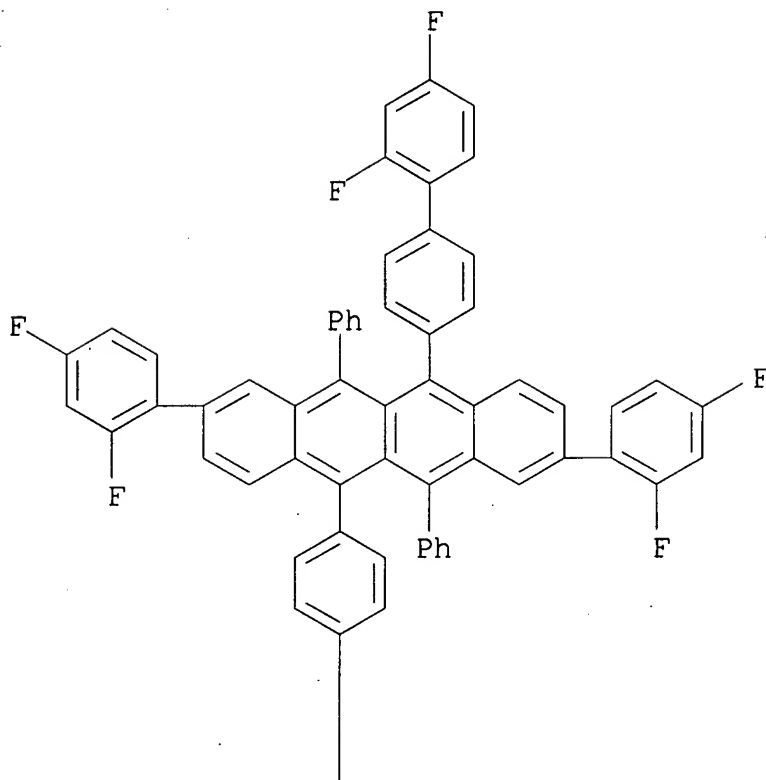
CN Naphthacene, 5,11-bis[1,1'-biphenyl]-4-yl-6,12-bis(pentafluorophenyl)-2,8-diphenyl- (9CI) (CA INDEX NAME)



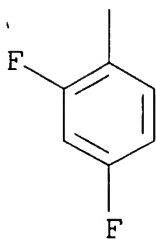
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PAGE 1-A



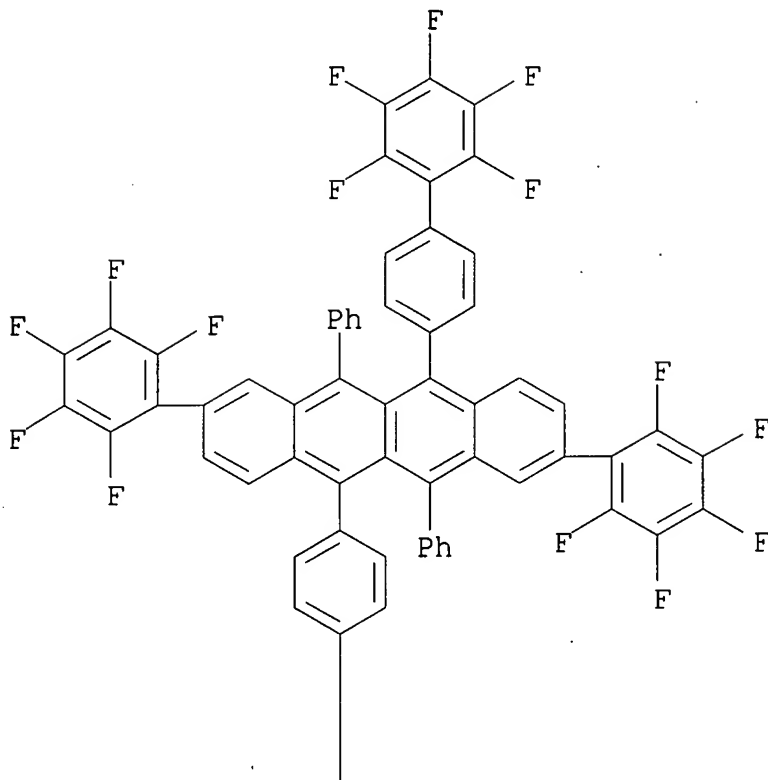
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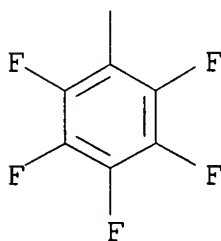
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PAGE 1-A



PAGE 2-A



L5 ANSWER 3 OF 6 ZCAPLUS COPYRIGHT 2005 ACS on STN  
AN 2005:394610 ZCAPLUS  
DN 142:438398  
ED Entered STN: 09 May 2005  
TI Organic element for electroluminescent devices using rubrene  
derivative  
IN Begley, William J.; Hatwar, Tukaram K.; Rajeswaran, Manju; Giesen,

David J.; Andrievsky, Natasha  
 PA Eastman Kodak Company, USA  
 SO U.S. Pat. Appl. Publ., 25 pp.  
 CODEN: USXXCO  
 DT Patent  
 LA English  
 IC ICM H05B033-14  
 INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
PI	US 2005095451	A1	20050505	US 2003-700916	20031104
	WO 2005048370	A1	20050526	WO 2004-US34776	20041021

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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

PRAI US 2003-700916 A 20031104

CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005095451	ICM	H05B033-14
	INCL	428690000; 428917000; 313504000; 313506000; 313112000; 257098000
US 2005095451	NCL	428/690.000; 428/917.000; 313/504.000; 313/506.000; 313/112.000; 257/098.000

AB Disclosed is an OLED device comprising a light-emitting layer (LEL) contg. a host and a dopant located between a cathode and an anode wherein the emitter is an orange-red light emitting rubrene deriv. (II): wherein: (a) there are identical branched alkyl or nonarom. carbocyclic groups at the 2- and 8-positions; (b) the Ph rings in the 5- and 11-positions contain only para-substituents identical to the branched alkyl or nonarom. carbocyclic groups in paragraph (a);



and (c) the Ph rings in the 6- and 12-positions are substituted.

ST electroluminescent device rubrene

IT Electroluminescent devices  
(org. element for electroluminescent devices using rubrene  
deriv.)

IT 850797-15-8 **850797-16-9 850797-17-0**  
850797-18-1 **850797-19-2 850797-20-5**  
**850797-21-6 850797-22-7 850797-23-8**  
850797-24-9 850797-25-0  
(org. element for electroluminescent devices using rubrene  
deriv.)

IT 850797-14-7P  
(org. element for electroluminescent devices using rubrene  
deriv.)

IT 772-38-3 15796-82-4  
(org. element for electroluminescent devices using rubrene  
deriv.)

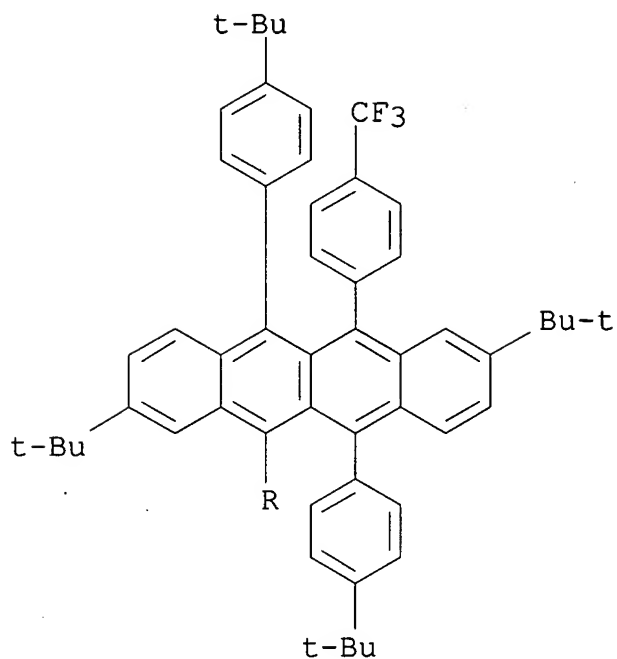
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IT **850797-16-9 850797-17-0 850797-19-2**  
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(org. element for electroluminescent devices using rubrene  
deriv.)

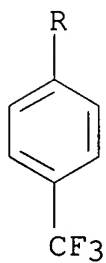
RN 850797-16-9 ZCAPLUS

CN Naphthacene, 2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-  
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(CA INDEX NAME)

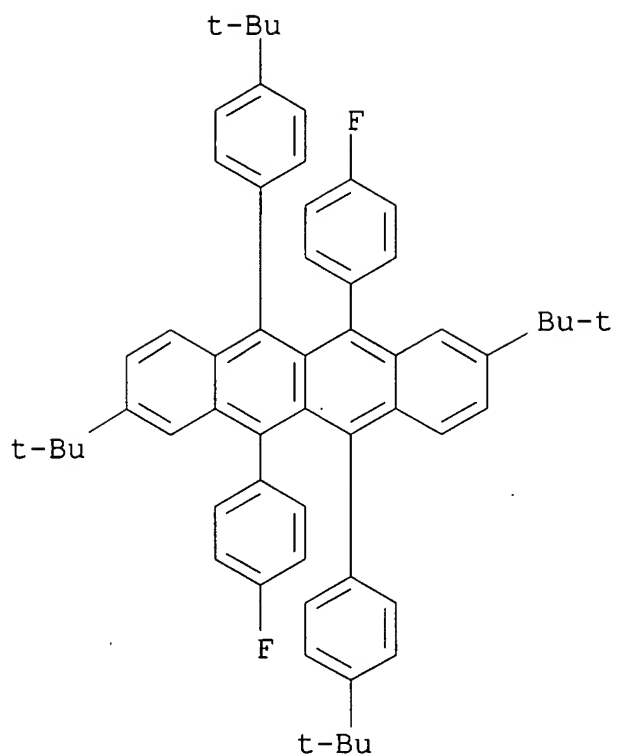
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PAGE 2-A



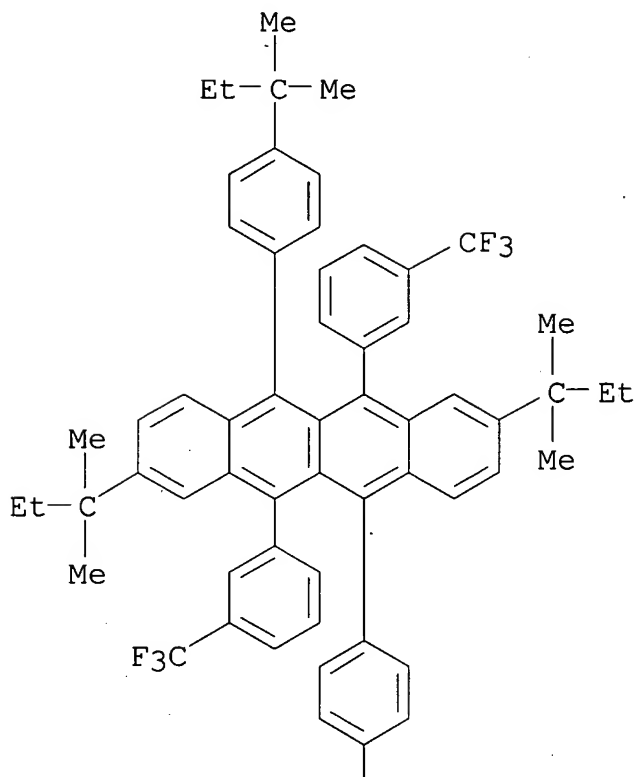
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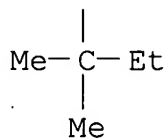
RN 850797-19-2 ZCAPLUS

CN Naphthacene, 2,8-bis(1,1-dimethylpropyl)-5,11-bis[4-(1,1-dimethylpropyl)phenyl]-6,12-bis[3-(trifluoromethyl)phenyl]- (9CI)  
(CA INDEX NAME)

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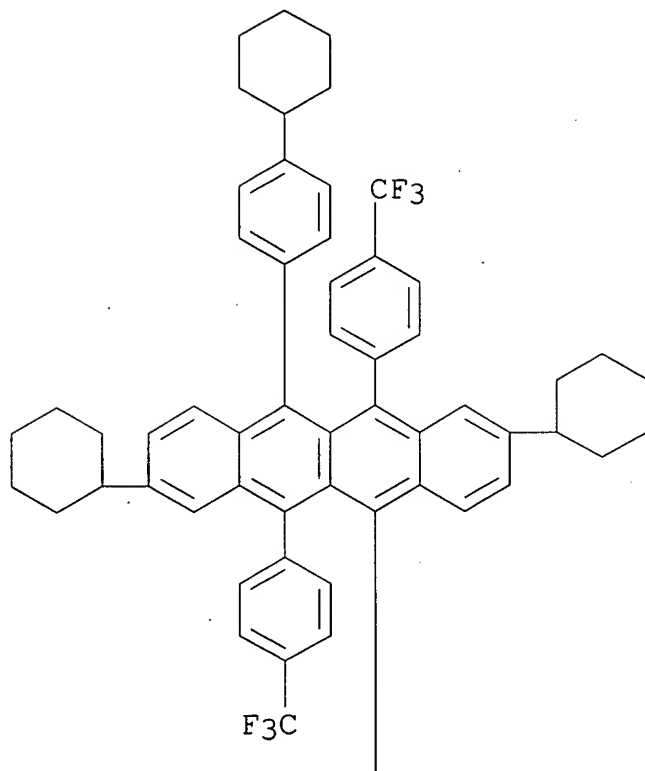


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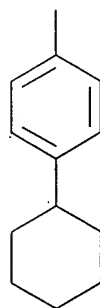


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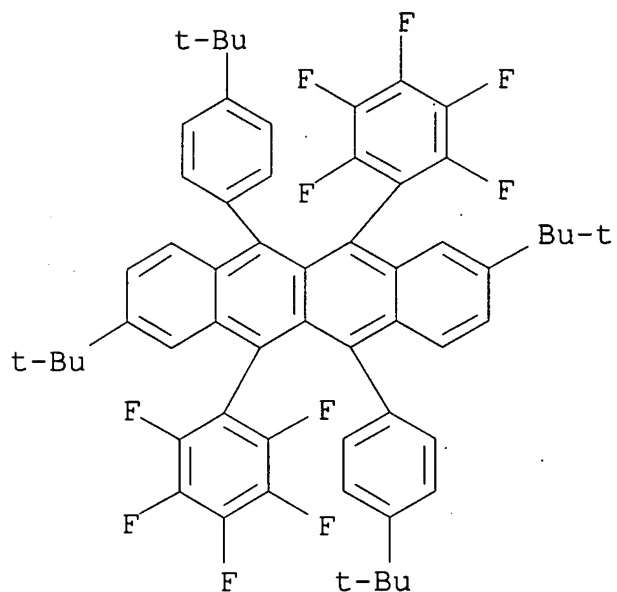
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PAGE 2-A

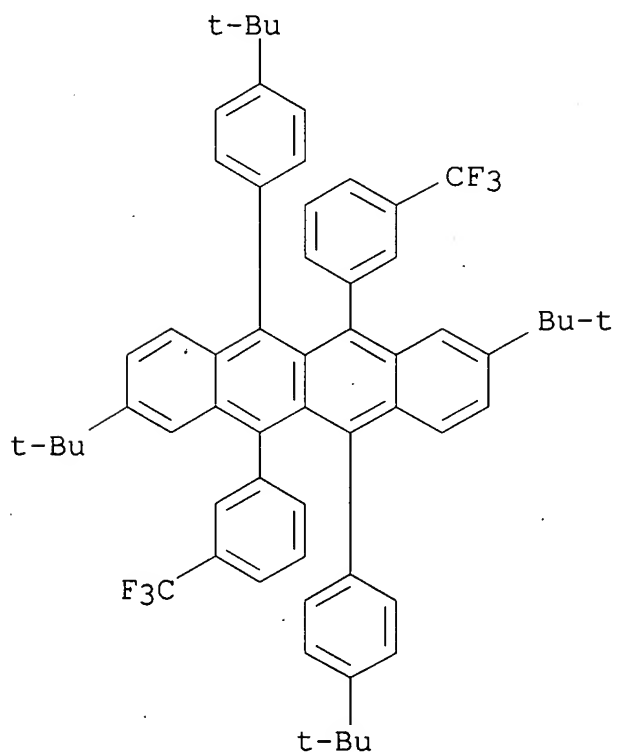


RN 850797-21-6 ZCAPLUS  
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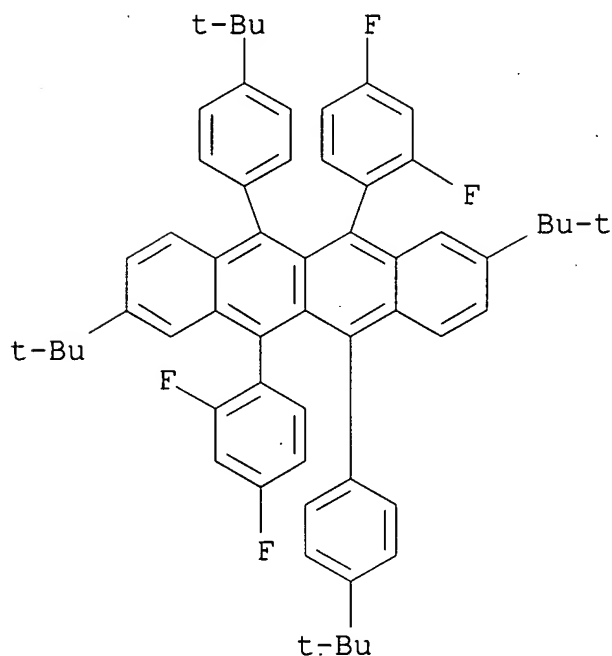


RN 850797-22-7 ZCAPLUS

CN Naphthacene, 2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]-6,12-bis[3-(trifluoromethyl)phenyl]- (9CI)  
(CA INDEX NAME)



RN 850797-23-8 ZCAPLUS

CN Naphthacene, 6,12-bis(2,4-difluorophenyl)-2,8-bis(1,1-dimethylethyl)-  
5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

L5 ANSWER 4 OF 6 ZCAPLUS COPYRIGHT 2005 ACS on STN

AN 2005:394609 ZCAPLUS

DN 142:438397

ED Entered STN: 09 May 2005

TI Organic element for electroluminescent devices using fluoronaphthacene derivatives

IN Begley, William J.; Hatwar, Tukaram K.; Rajeswaran, Manju; Andrievsky, Natasha

PA Eastman Kodak Company, USA

SO U.S. Pat. Appl. Publ., 36 pp.

CODEN: USXXCO

DT Patent

LA English

IC ICM H05B033-14

INCL 428690000; 428917000; 313504000; 313506000; 313112000; 257098000

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

FAN.CNT 1

PATENT NO.

KIND

DATE

APPLICATION NO.

DATE

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PI -----  
 US 2005095450 A1 20050505 US 2003-700894 200311  
 WO 2005048371 A1 20050526 WO 2004-US35241 04  
 200410  
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PRAI US 2003-700894 A 20031104

## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
US 2005095450	ICM	H05B033-14
	INCL	428690000; 428917000; 313504000; 313506000; 313112000; 257098000
US 2005095450	NCL	428/690.000; 428/917.000; 313/504.000; 313/506.000; 313/112.000; 257/098.000

AB Disclosed is an OLED device comprising a light-emitting layer (LEL) contg. a host and an emitting dopant located between a cathode and an anode wherein the dopant is a naphthacene deriv. (I): wherein: (a) said naphthacene deriv. contains at least one F or F contg. group; and (b) when exactly two F contg. groups are present said groups are not located at the 5- and 12-positions or at the 6- and 11-positions.

ST electroluminescent device fluoro naphthacene

IT Electroluminescent devices

(org. element for electroluminescent devices using fluoronaphacene derivs.)

IT 682806-51-5 850755-34-9 850755-36-1  
 850755-40-7 850755-41-8 850755-42-9  
 850755-43-0 850755-44-1 850755-45-2  
 850755-46-3 850755-48-5 850755-49-6  
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 850765-68-3 850765-70-7 850765-73-0  
 850765-74-1 850797-16-9 850797-17-0  
 850797-19-2 850797-20-5 850797-21-6  
 850797-22-7 850797-23-8 850833-45-3



**850833-46-4 850833-47-5 850833-48-6**

**850833-49-7 850833-50-0 850833-51-1**

(org. element for electroluminescent devices using  
fluoronaphacene derivs.)

IT **850765-58-1P**

(org. element for electroluminescent devices using  
fluoronaphacene derivs.)

IT 705-31-7 3478-90-8

(org. element for electroluminescent devices using  
fluoronaphacene derivs.)

IT 850765-57-0P

(org. element for electroluminescent devices using  
fluoronaphacene derivs.)

IT **850755-34-9 850755-36-1 850755-40-7**

**850755-41-8 850755-42-9 850755-43-0**

**850755-44-1 850755-45-2 850755-46-3**

**850755-48-5 850755-49-6 850765-59-2**

**850765-60-5 850765-61-6 850765-68-3**

**850765-70-7 850765-73-0 850765-74-1**

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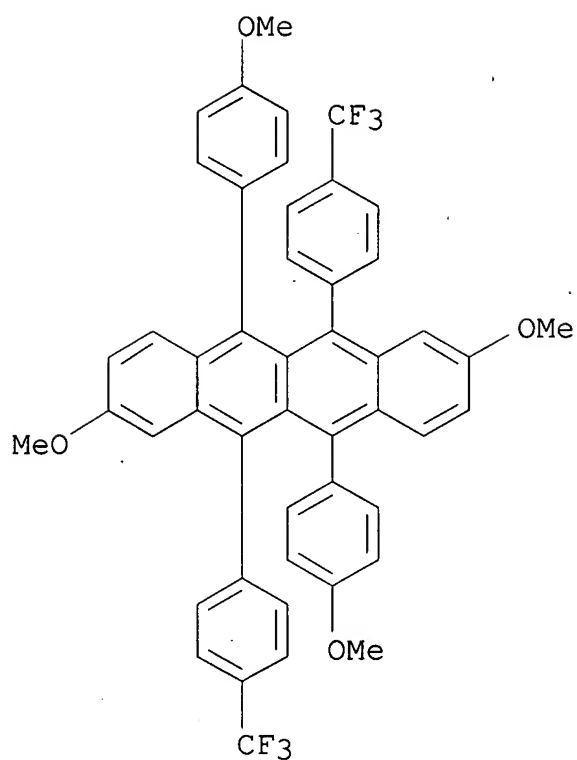
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**850833-50-0 850833-51-1**

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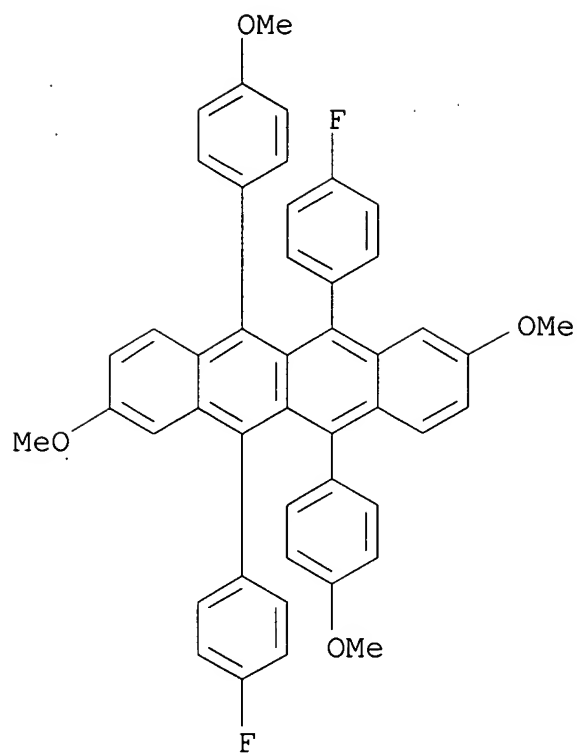
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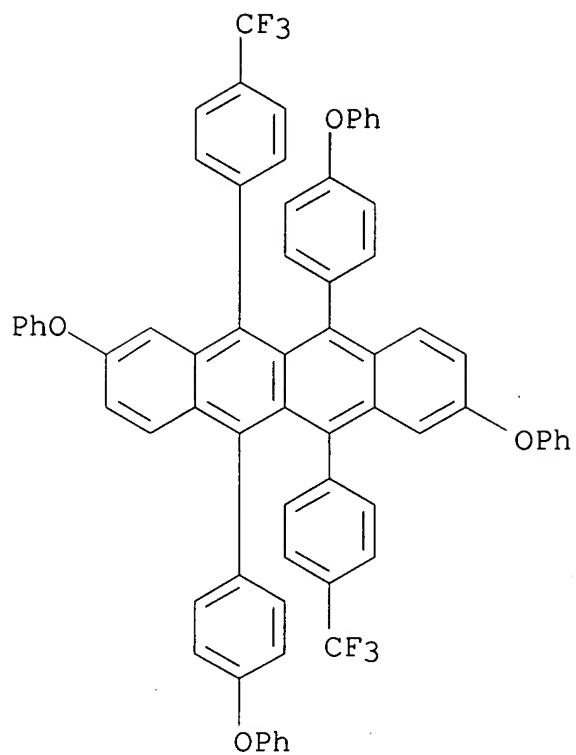
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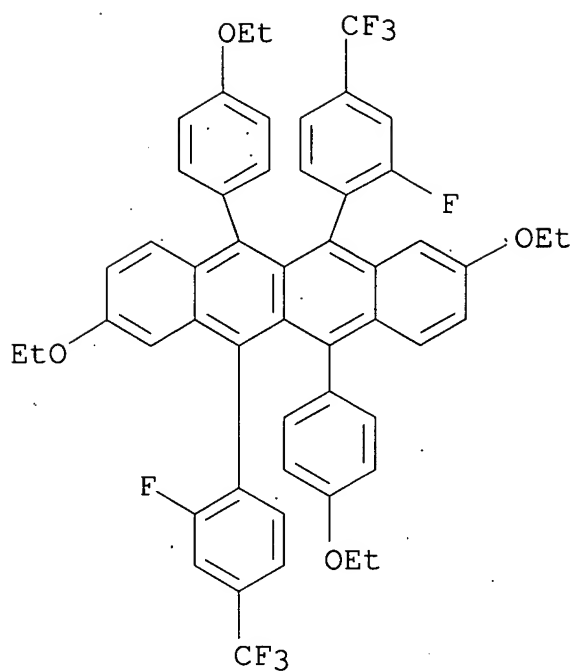
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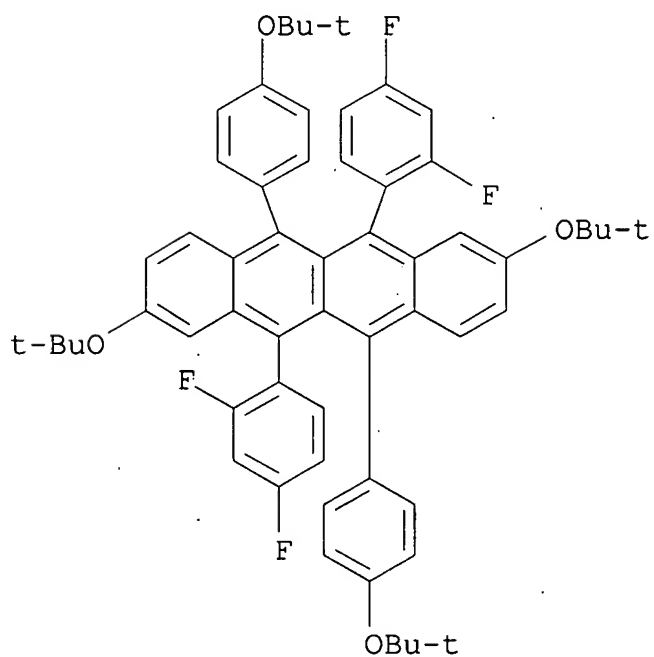
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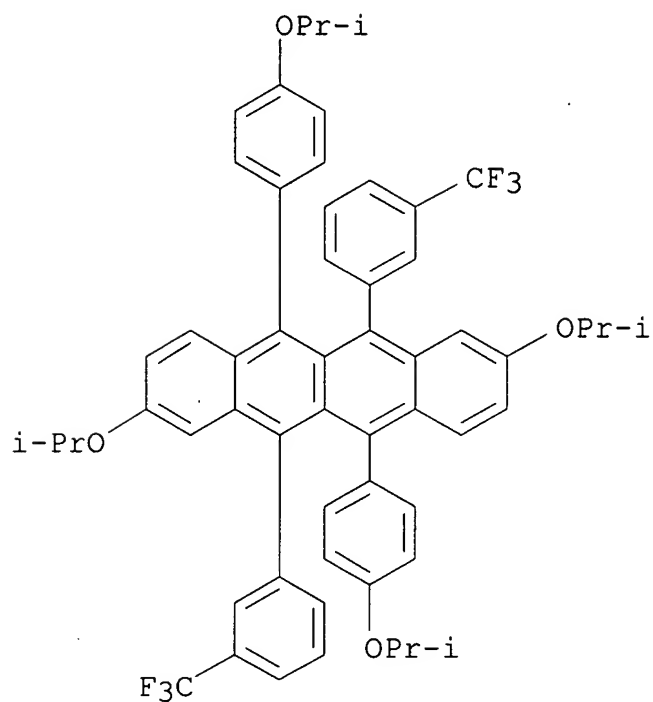
RN 850755-42-9 ZCAPLUS

CN Naphthacene, 6,12-bis(2,4-difluorophenyl)-2,8-bis(1,1-dimethylethoxy)-5,11-bis[4-(1,1-dimethylethoxy)phenyl]- (9CI) (CA INDEX NAME)



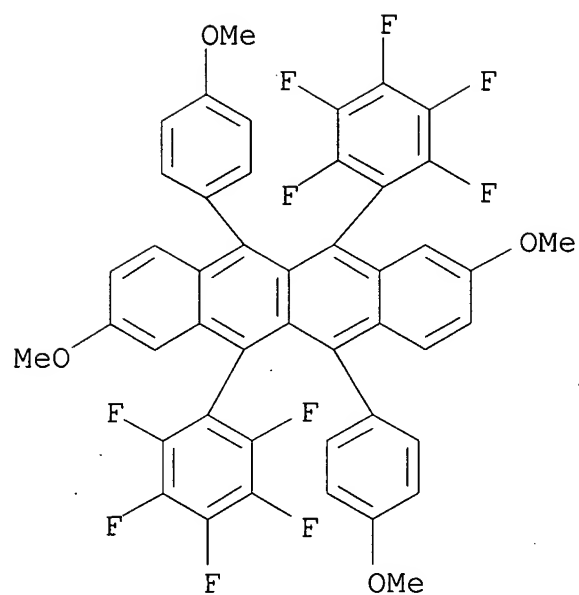
RN 850755-43-0 ZCAPLUS

CN Naphthacene, 2,8-bis(1-methylethoxy)-5,11-bis[4-(1-methylethoxy)phenyl]-6,12-bis[3-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 850755-44-1 ZCAPLUS

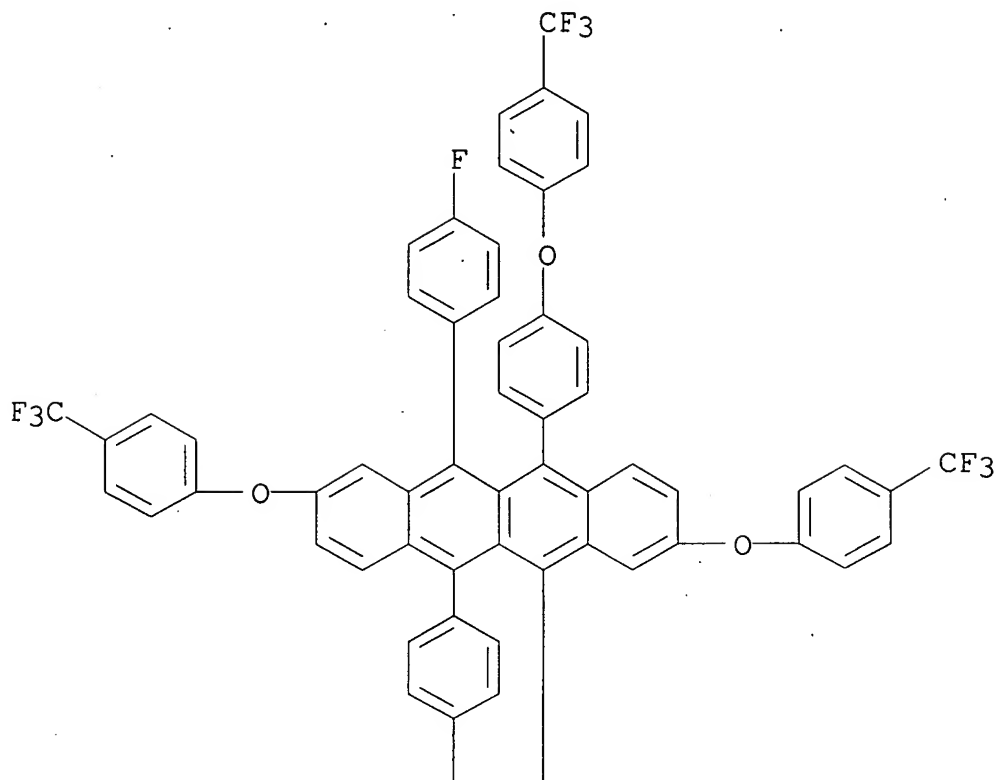
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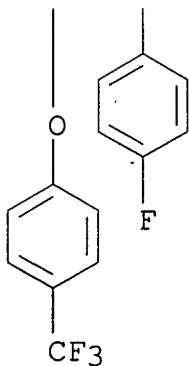
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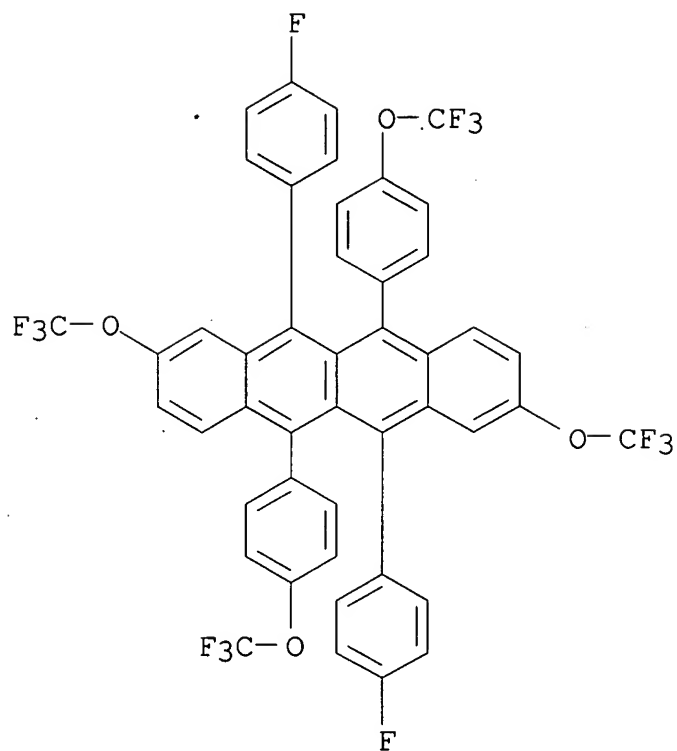


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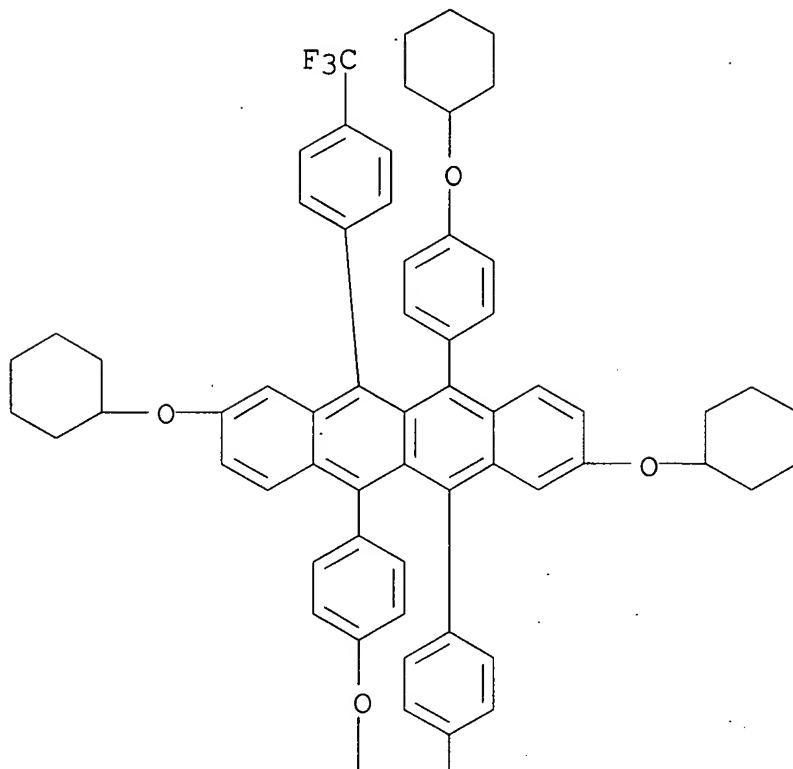




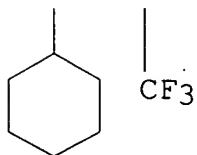
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(CA INDEX NAME)

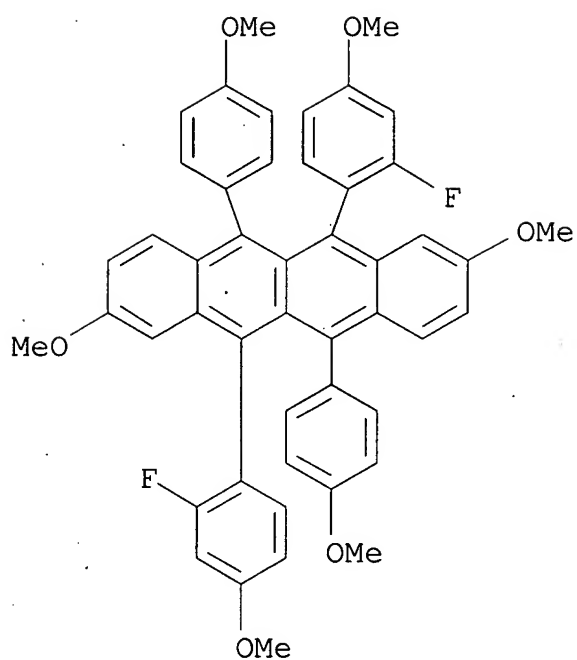
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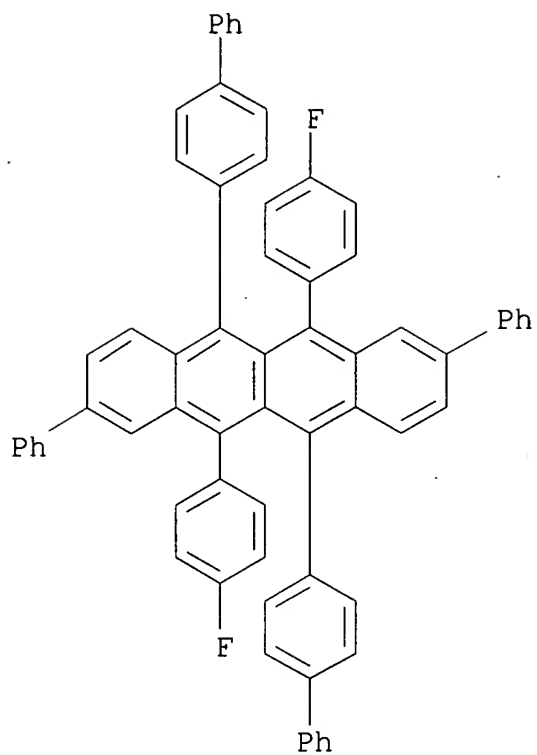


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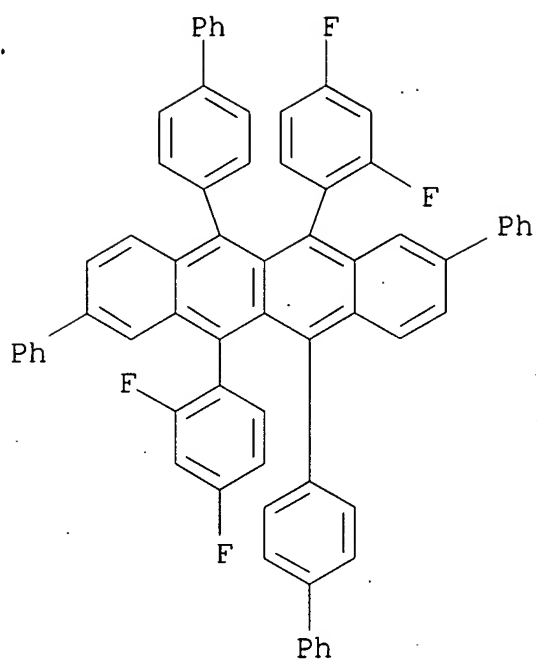
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RN 850765-60-5 ZCAPLUS

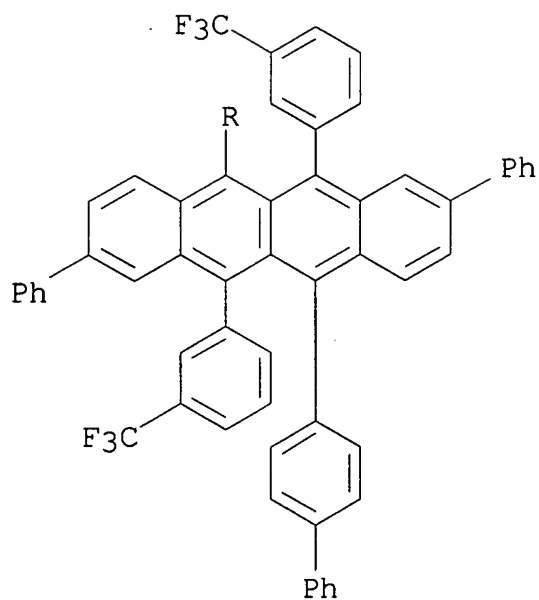
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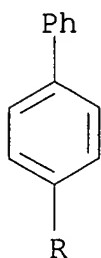
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PAGE 1-A

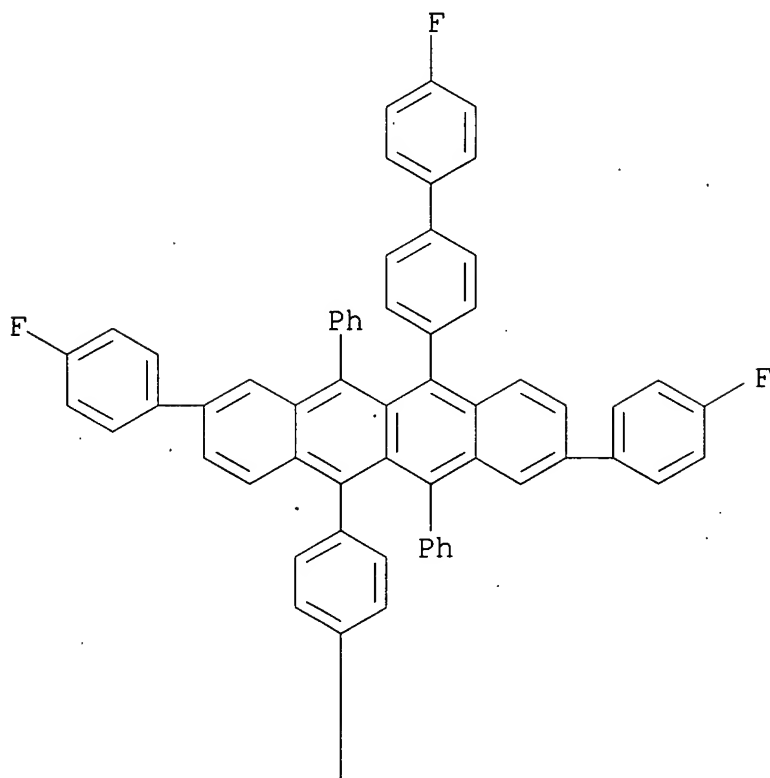


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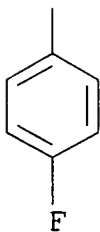


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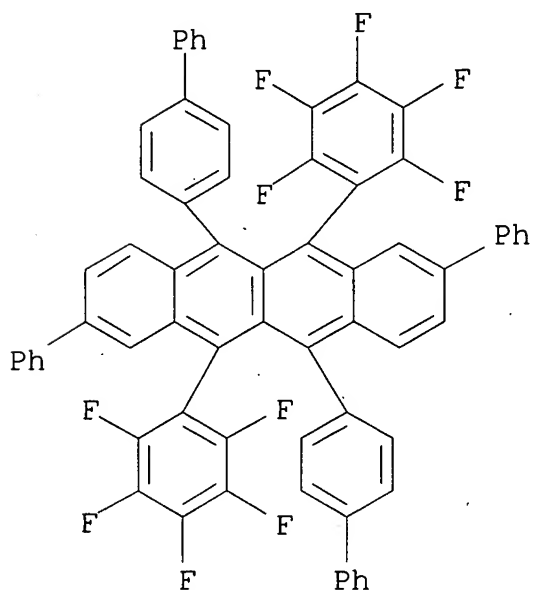


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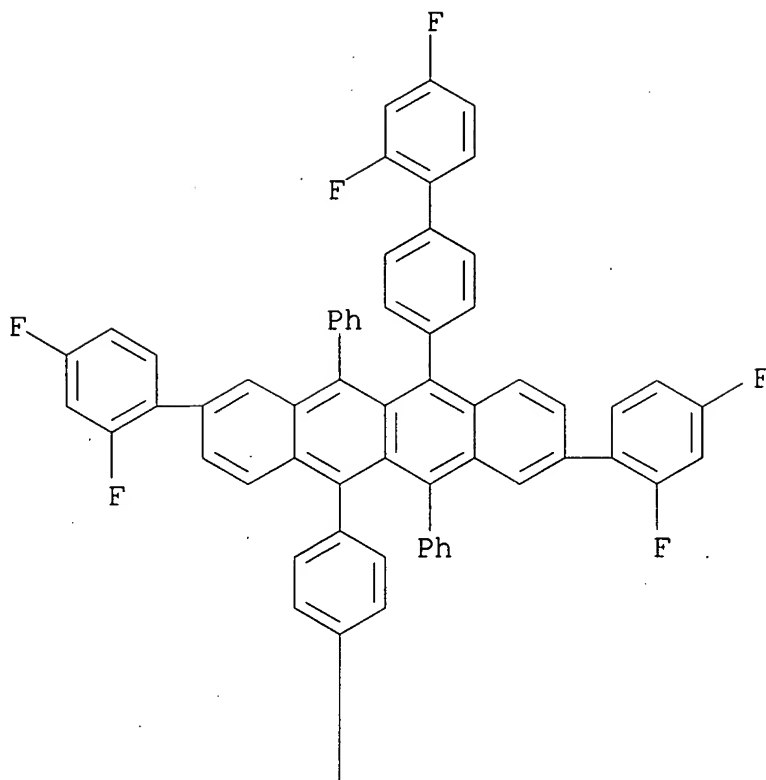
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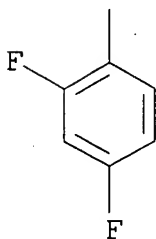
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PAGE 1-A



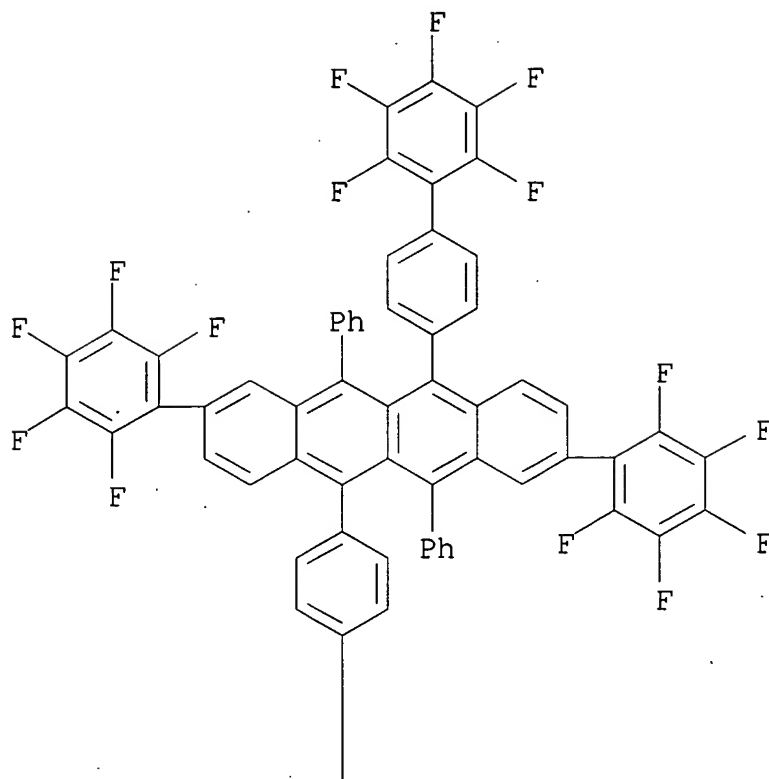
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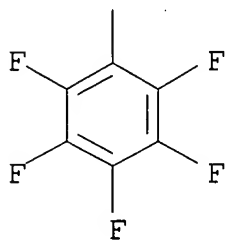
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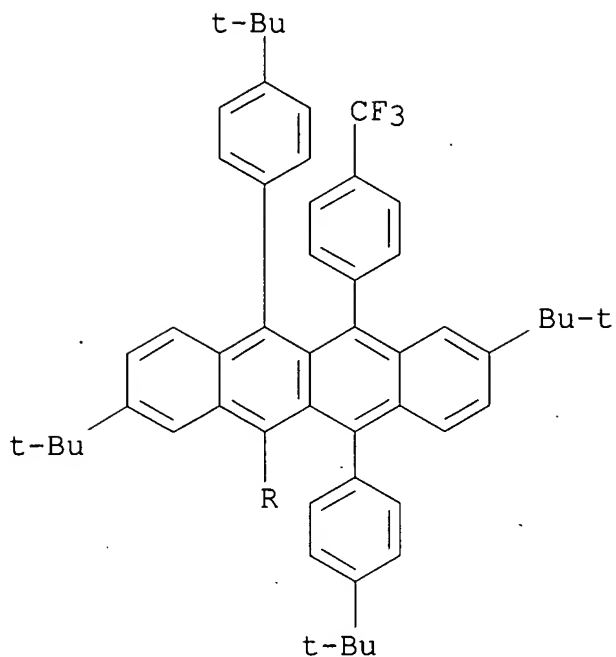


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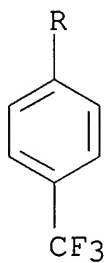


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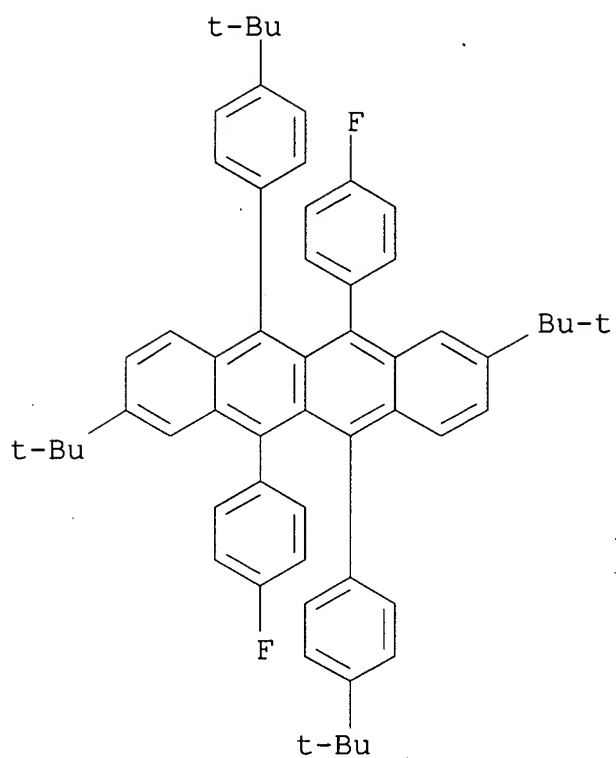
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PAGE 2-A



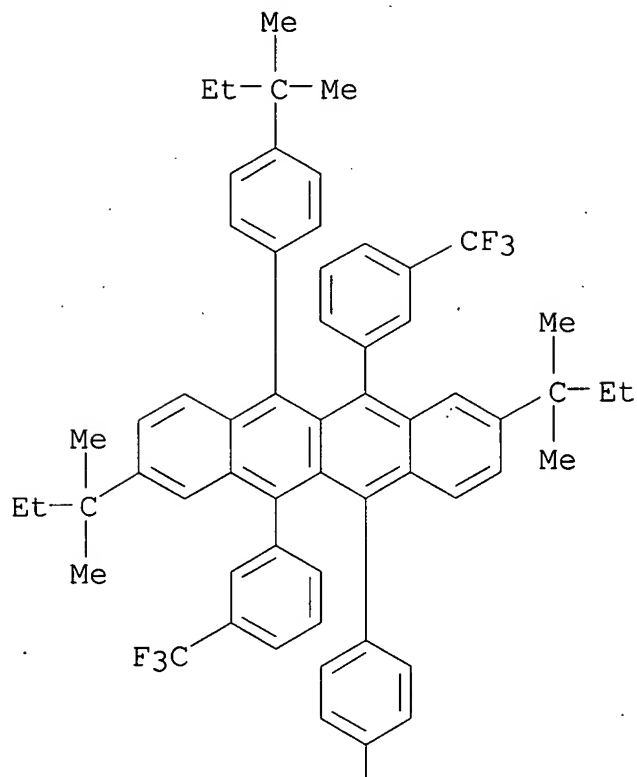
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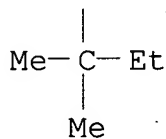
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(CA INDEX NAME)

PAGE 1-A



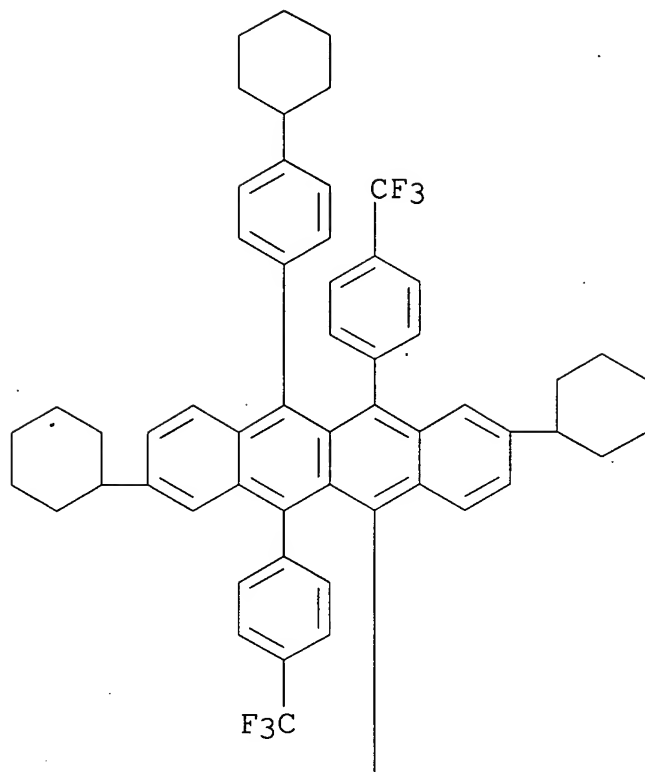
PAGE 2-A



RN 850797-20-5 ZCAPLUS

CN Naphthalene, 2,8-dicyclohexyl-5,11-bis(4-cyclohexylphenyl)-6,12-bis[4-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)

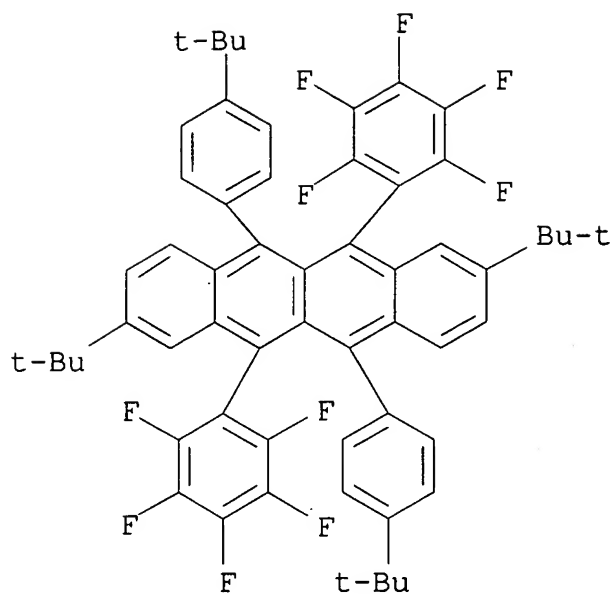
PAGE 1-A



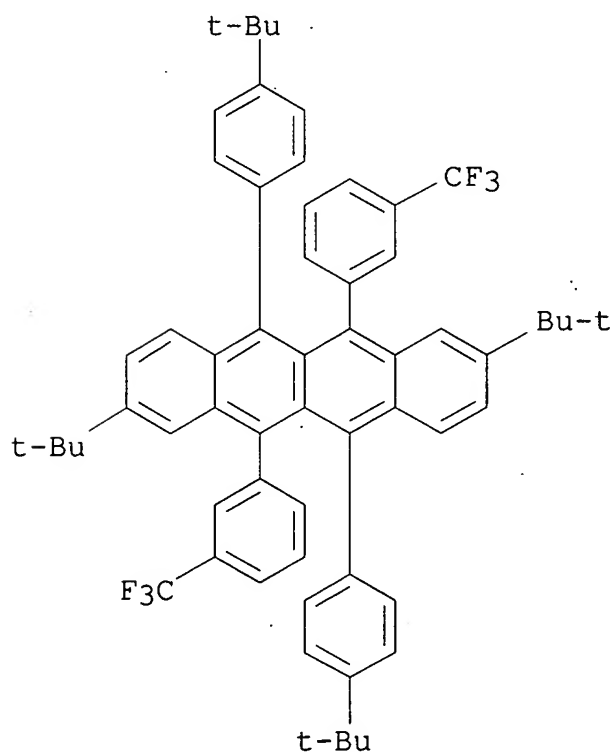
PAGE 2-A



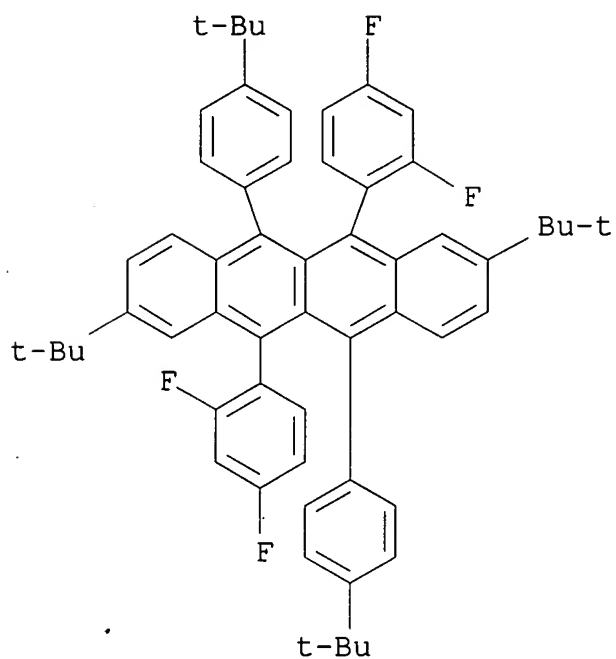
RN 850797-21-6 ZCAPLUS  
CN Naphthacene, 2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]-6,12-bis(pentafluorophenyl)- (9CI) (CA INDEX NAME)



RN 850797-22-7 ZCAPLUS  
CN Naphthalene, 2,8-bis(1,1-dimethylethyl)-5,11-bis[4-(1,1-dimethylethyl)phenyl]-6,12-bis[3-(trifluoromethyl)phenyl]- (9CI)  
(CA INDEX NAME)

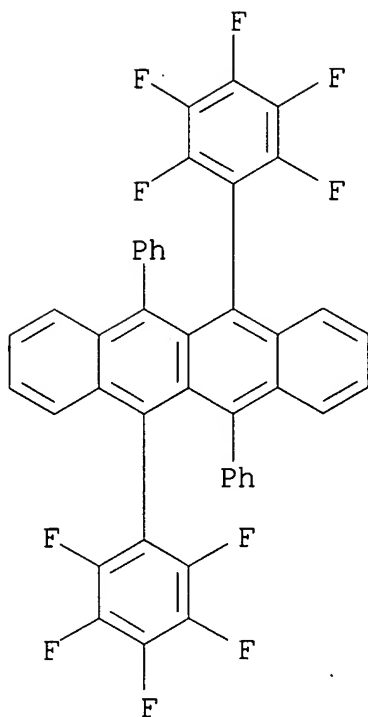


RN 850797-23-8 ZCAPLUS

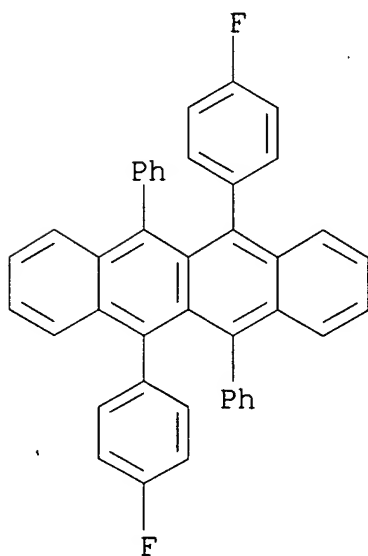
CN Naphthacene, 6,12-bis(2,4-difluorophenyl)-2,8-bis(1,1-dimethylethyl)-  
5,11-bis[4-(1,1-dimethylethyl)phenyl]- (9CI) (CA INDEX NAME)

RN 850833-45-3 ZCAPLUS

CN Naphthacene, 5,11-bis(pentafluorophenyl)-6,12-diphenyl- (9CI) (CA  
INDEX NAME)



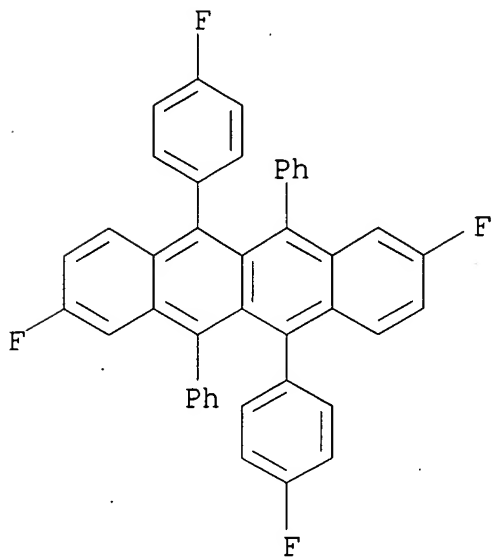
RN 850833-46-4 ZCAPLUS

CN Naphthalene, 5,11-bis(4-fluorophenyl)-6,12-diphenyl- (9CI) (CA  
INDEX NAME)

RN 850833-47-5 ZCAPLUS

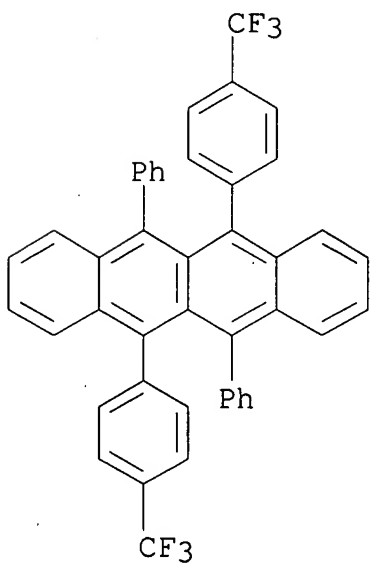


CN Naphthacene, 2,8-difluoro-5,11-bis(4-fluorophenyl)-6,12-diphenyl-  
(9CI) (CA INDEX NAME)



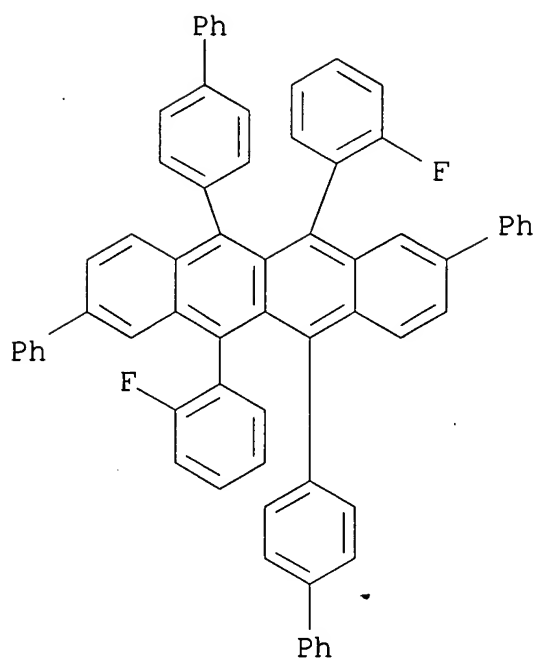
RN 850833-48-6 ZCAPLUS

CN Naphthacene, 5,11-diphenyl-6,12-bis[4-(trifluoromethyl)phenyl]-  
(9CI) (CA INDEX NAME)



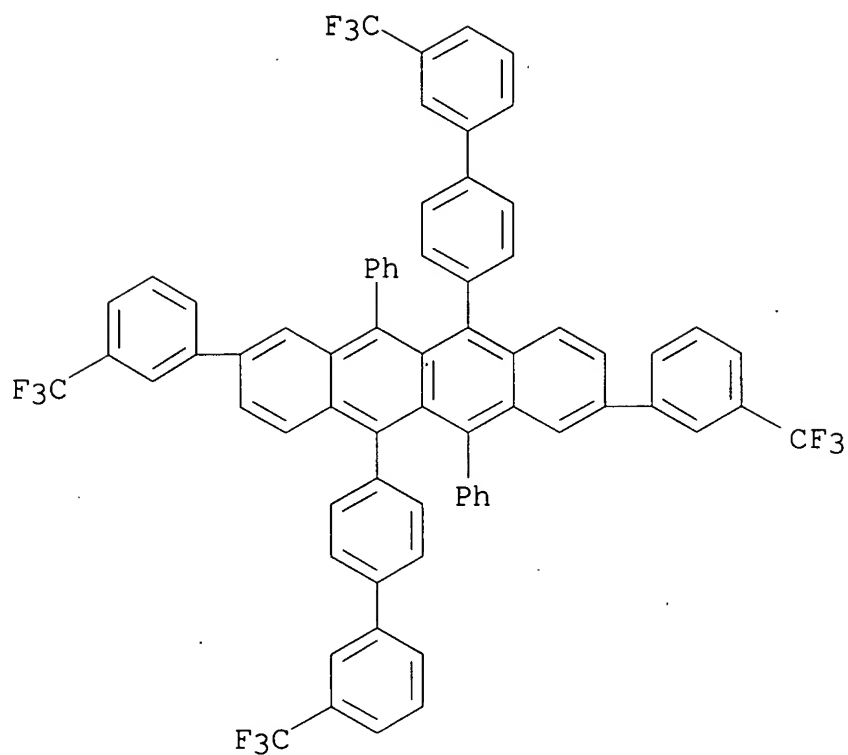
RN 850833-49-7 ZCAPLUS

CN INDEX NAME NOT YET ASSIGNED



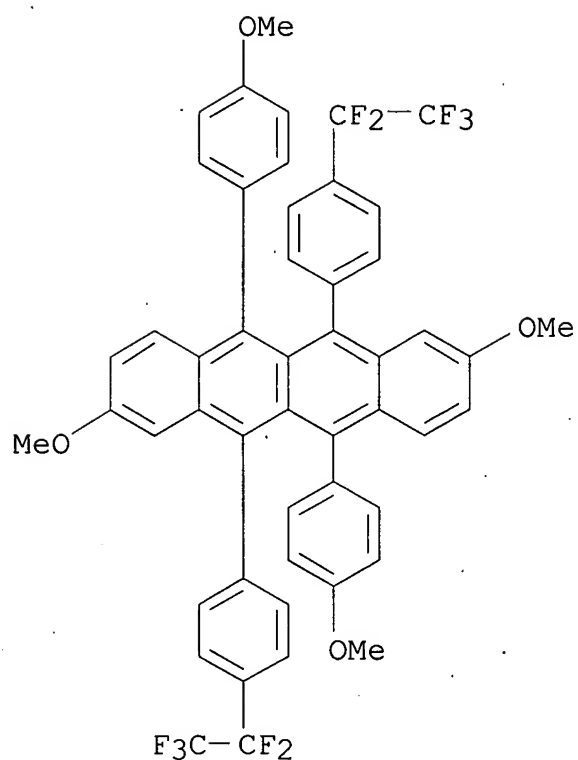
RN 850833-50-0 ZCAPLUS

CN Naphthacene, 6,12-diphenyl-5,11-bis[3'-(trifluoromethyl)[1,1'-biphenyl]-4-yl]-2,8-bis[3-(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



RN 850833-51-1 ZCAPLUS

CN Naphthacene, 2,8-dimethoxy-5,11-bis(4-methoxyphenyl)-6,12-bis[4-(pentafluoroethyl)phenyl]- (9CI) (CA INDEX NAME)

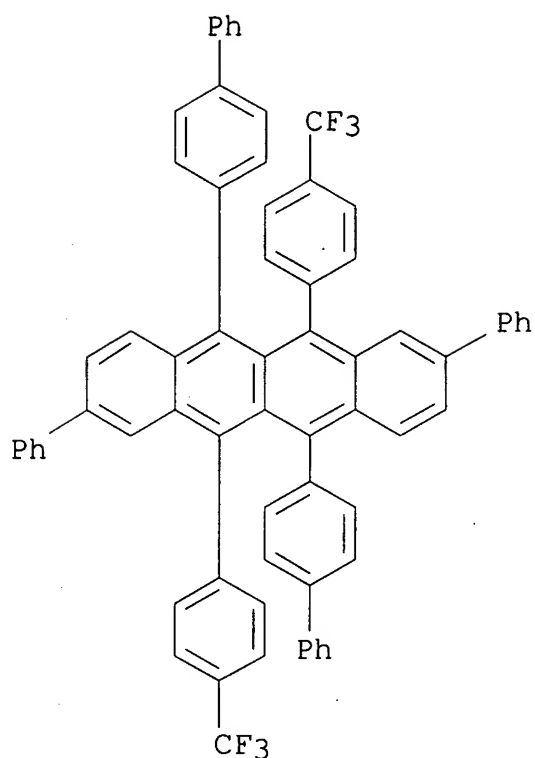


IT **850765-58-1P**

(org. element for electroluminescent devices using  
fluoronaphacene derivs.)

RN 850765-58-1 ZCAPLUS

CN Naphthacene, 5,11-bis[1,1'-biphenyl]-4-yl-2,8-diphenyl-6,12-bis[4-  
(trifluoromethyl)phenyl]- (9CI) (CA INDEX NAME)



L5 ANSWER 5 OF 6 ZCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 2002:964452 ZCAPLUS  
 DN 138:47030  
 ED Entered STN: 20 Dec 2002  
 TI Organic electroluminescent device and luminescent material  
 containing a rubrene deriv. as a luminescence facilitator  
 IN Hamada, Yuji; Tsujioka, Tsuyoshi  
 PA Sanyo Electric Co., Ltd., Japan  
 SO PCT Int. Appl., 176 pp.  
 CODEN: PIXXD2  
 DT Patent  
 LA Japanese  
 IC ICM C09K011-06  
 ICS H05B033-14  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)

FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
	-----	----	-----	-----	
PI	WO 2002100977	A1	20021219	WO 2002-JP5522	

200206

04

W: KR, US

RW: DE

JP 2003055652 A2 20030226 JP 2002-161323

200206

03

EP 1405893 A1 20040407 EP 2002-733300

200206

04

R: DE, SI, LT, LV, RO, MK, AL

US 2005079381 A1 20050414 US 2003-479734

200206

04

PRAI JP 2001-171664 A 20010606

JP 2002-161323 A 20020603

WO 2002-JP5522 W 20020604

## CLASS

PATENT NO. CLASS PATENT FAMILY CLASSIFICATION CODES

WO 2002100977 ICM C09K011-06

ICS H05B033-14

WO 2002100977 ECLA C09K011/06; H01L051/30H4

EP 1405893 ECLA H01L051/30H4

US 2005079381 NCL 428/690.000; 428/917.000; 313/504.000;  
313/506.000

AB An org. electroluminescence device having a high luminance and a high emission efficiency. The invention refers to an org. electroluminescent device comprising a luminescent layer with a host material, an emitting dopant and a luminescence facilitator, wherein the facilitator is a rubrene deriv.

ST electroluminescent device rubrene deriv luminescence facilitator

IT Electroluminescent devices

(org. electroluminescent device and luminescent material contg. a rubrene deriv. as a luminescence facilitator)

IT 27130-32-1, 5,12-Diphenyl naphthacene 374592-94-6,  
5,6,11,12-Tetrakis(2-naphthyl)naphthacene 478799-44-9  
478799-45-0, 5,6,11,12-Tetra(4-tert-butylphenyl)naphthacene  
478799-46-1, 5,12-Bis(4-tert-butylphenyl)naphthacene 478799-47-2,  
5,12-Bis(2-naphthyl)naphthacene 478799-48-3, 5,12-Bis(1-  
pyrenyl)naphthacene 478799-49-4, 5,6,13,14-Tetraphenylpentacene  
478799-50-7 478799-51-8 478799-52-9 478799-53-0 478799-54-1  
478799-55-2 478799-56-3 478799-57-4 478799-58-5 478799-59-6  
478799-60-9 478799-61-0 **478799-62-1** 478799-63-2  
478799-64-3 478799-65-4 478799-66-5 478799-67-6 478799-68-7  
478799-69-8 478799-70-1 478799-71-2 478799-72-3 478799-73-4  
478799-74-5 478799-75-6 478799-76-7

(org. electroluminescent device and luminescent material contg. a rubrene deriv. as a luminescence facilitator)

RE.CNT 20 THERE ARE 20 CITED REFERENCES AVAILABLE FOR THIS RECORD  
RE

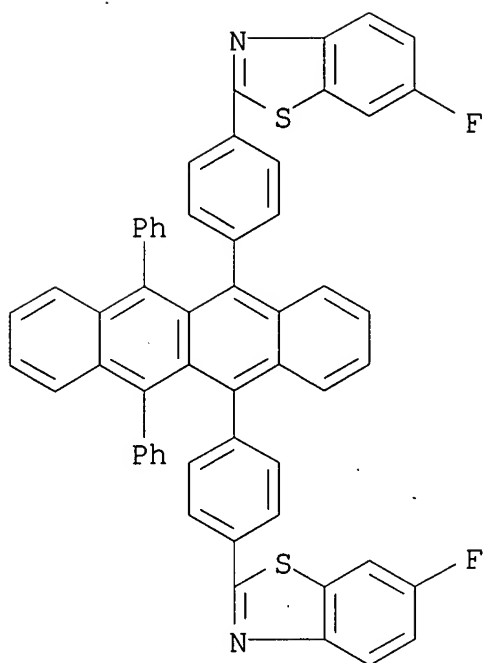
- (1) Asahi Glass Co Ltd; JP 11-273861 A 1999 ZCAPLUS
- (2) Chemipro Kasei Kaisha Ltd; JP 2001131434 A 2001 ZCAPLUS
- (3) Denso Corp; JP 200293581 A 2002
- (4) Idemitsu Kosan Co Ltd; WO 0148116 A1 2001 ZCAPLUS
- (5) Idemitsu Kosan Co Ltd; EP 1182244 A1 2001 ZCAPLUS
- (6) Idemitsu Kosan Co Ltd; CN 1342190 A 2001
- (7) Idemitsu Kosan Co Ltd; JP 2001102172 A 2001 ZCAPLUS
- (8) Idemitsu Kosan Co Ltd; KR 2001102413 A 2001
- (9) Idemitsu Kosan Co Ltd; JP 2001250690 A 2001 ZCAPLUS
- (10) Mitsubishi Chemical Corp; JP 10-36832 A 1998 ZCAPLUS
- (11) Mitsubishi Chemical Corp; JP 2001297883 A 2001 ZCAPLUS
- (12) Mitsubishi Kasei Corp; JP 04-335087 A 1992 ZCAPLUS
- (13) Tdk Corp; JP 200026337 A 1999
- (14) Tdk Corp; WO 9957220 A1 1999 ZCAPLUS
- (15) Tdk Corp; WO 9957221 A1 1999 ZCAPLUS
- (16) Tdk Corp; JP 2000268964 A 2000 ZCAPLUS
- (17) Toppan Printing Co Ltd; JP 2000178548 A 2000 ZCAPLUS
- (18) Toyo Ink Manufacturing Co Ltd; JP 2002167578 A 2002 ZCAPLUS
- (19) Xerox Corp; JP 10-255985 A 1999 ZCAPLUS
- (20) Xerox Corp; US 5989737 A 1999 ZCAPLUS

IT **478799-62-1**

(org. electroluminescent device and luminescent material contg. a  
rubrene deriv. as a luminescence facilitator)

RN 478799-62-1 ZCAPLUS

CN Benzothiazole, 2,2'-[(6,11-diphenyl-5,12-naphthacenediyl)di-4,1-  
phenylene]bis[6-fluoro- (9CI) (CA INDEX NAME)



L5 ANSWER 6 OF 6 ZCAPLUS COPYRIGHT 2005 ACS on STN  
 AN 1998:693684 ZCAPLUS  
 DN 130:18786  
 ED Entered STN: 02 Nov 1998  
 TI Organic electroluminescent device material containing naphthacene  
 derivative and organic electroluminescent device with it  
 IN Okutsu, Satoshi; Tamano, Michiko; Onikubo, Shunichi; Enokida, Toshio  
 PA Toyo Ink Mfg. Co., Ltd., Japan  
 SO Jpn. Kokai Tokkyo Koho, 28 pp.  
 CODEN: JKXXAF  
 DT Patent  
 LA Japanese  
 IC ICM H05B033-22  
 ICS C09K011-06; H05B033-14  
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related  
 Properties)  
 Section cross-reference(s): 76

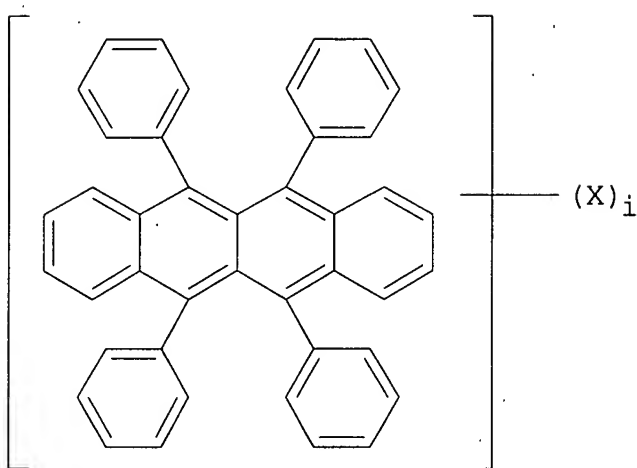
FAN.CNT 1

	PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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PI	JP 10289786	A2	19981027	JP 1997-95406	19970414
PRAI	JP 1997-95406		19970414		14



## CLASS

PATENT NO.	CLASS	PATENT FAMILY CLASSIFICATION CODES
JP 10289786	ICM	H05B033-22
	ICS	C09K011-06; H05B033-14
OS MARPAT 130:18786		
GI		



- AB The title material contains the deriv. described by the general formula I (X = halo, cyano, alkyl, aryl, alkoxy, aryloxy, alkylthio, arylthio, cycloalkyl, heterocyclic, NH<sub>2</sub>; i = 1-28). Device are also described which have plural org. compd. thin films, contg. a light-emitting layer and a hole injection layer, sandwiched by a pair of electrodes, in which one of the layers contains the material. The devices show high luminance, efficiency, and long life.
- ST electroluminescent naphthacene deriv light emitting layer; hole injection layer naphthacene deriv
- IT Phosphors  
(electroluminescent; org. electroluminescent device contg. naphthacene compd.)
- IT Electroluminescent devices  
(org. electroluminescent device contg. naphthacene compd.)
- IT 2085-33-8 123847-85-8 146162-54-1 177799-15-4 184024-25-7  
 194214-31-8 194794-43-9 213968-34-4 216066-57-8 216066-58-9  
 216066-59-0 216066-60-3 216066-62-5 216066-63-6 216066-64-7  
 216066-65-8 216066-66-9 216066-67-0 216066-68-1  
**216066-69-2** 216066-70-5 216066-71-6 216066-72-7

216066-73-8    216066-74-9    216066-75-0    216066-76-1    216066-77-2  
216066-78-3    216066-79-4    216066-80-7    216066-81-8    216066-82-9  
216066-83-0

(org. electroluminescent device contg. naphthacene compd.)

IT 120335-83-3P    216066-61-4P

(org. electroluminescent device contg. naphthacene compd.)

IT 100-58-3, Phenylmagnesium bromide    1090-13-7, 5,12-Naphthacenedione  
1201-71-4    2417-95-0, p-Tolylolithium    4294-57-9, p-Tolylmagnesium  
bromide    216066-84-1

(org. electroluminescent device contg. naphthacene compd.)

IT **216066-69-2**

(org. electroluminescent device contg. naphthacene compd.)

RN 216066-69-2 ZCAPLUS

CN Naphthacene, 5,12-bis(4-fluorophenyl)-6,11-diphenyl- (9CI) (CA  
INDEX NAME)

